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TM 5-1580

U.S. Dept. of Army

BULLDOZER
TRACTOR - MOUNTED
CABLE-OPERATED
LeTOURNEAU MODEL XD-7

MAINTENANCE INSTRUCTIONS AND PARTS CATALOG

US
WAR DEPARTMENT • MARCH, 1944

TM 5-1580

BULLDOZER, TRACTOR MOUNTED, CABLE- OPERATED, MODEL XD-7

(FOR USE WITH CATERPILLAR D-7 TRACTOR,
SERIAL No. 7M-1 AND UP,
AND LeTOURNEAU MODEL R-7 REAR
DOUBLE DRUM POWER CONTROL UNIT.)

Manufactured by:

R. G. LeTOURNEAU, INC.

PEORIA, ILLINOIS

STOCKTON, CALIF.

FOR
CORPS OF ENGINEERS

(WAR DEPARTMENT PURCHASE ORDER No. 07-5104)

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TM5-1580, Bulldozer, Tractor-Mounted, Cable-
Operated, LeTourneau Model XD-7, if published for
the information and guidance of all concerned.

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By order of the Secretary of War:

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Chief of Staff.

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Major General,
The Adjutant General.

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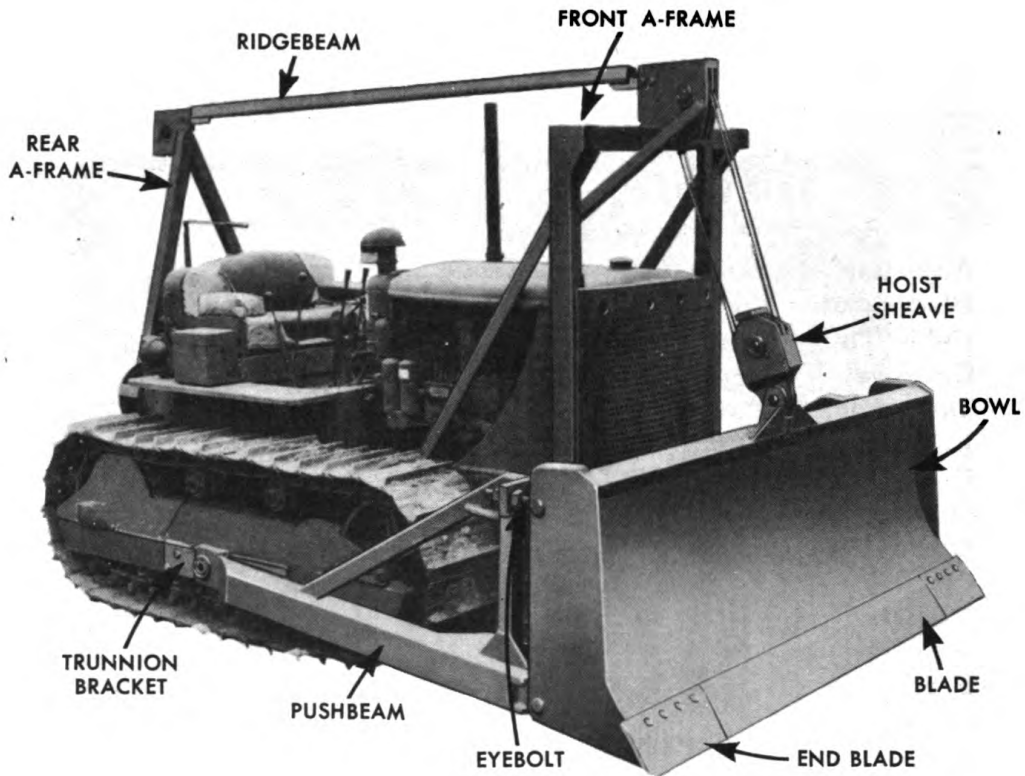
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THE MODEL XD7 BULLDOZER

The LeTourneau Model XD7 Bulldozer is designed for use with the "Caterpillar" new D-7 tractor.

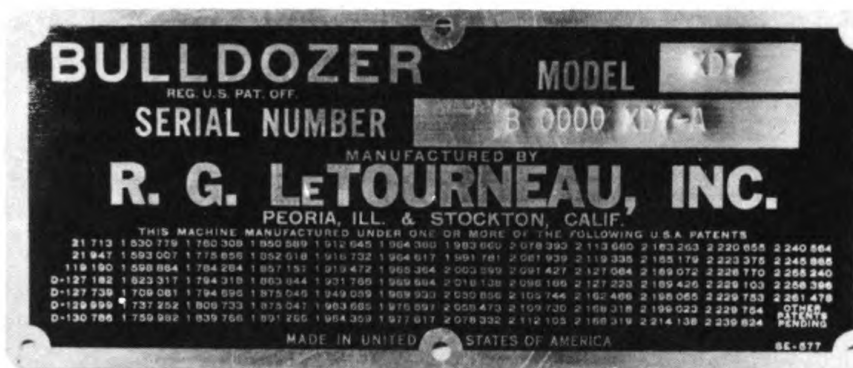
Its many uses include general excavation, road building, ramp building, grading, facing slopes, stock piling, spreading of all types of material, clearing, removing stumps and trees, land levelling, stripping, and innumerable other construction tasks.

The LeTourneau Model XD7 Bulldozer consists mainly of the steel blade or "bowl" across the front of the tractor. Other principal parts are those which support the bowl in front of the tractor and those related to the raising and lowering of the bowl.

As the tractor moves forward with the bowl lowered, the digging angle of the blade gives the bowl a natural digging suction, making for quick, plow-like penetration into the ground. The correctly curved bowl gives the dirt a rolling action ahead of the bowl, thus decreasing the dead load weight on the tractor unit.

The Dozer bowl, pushbeams, and "A" frame are detachable and can easily be knocked down for compact storage or transportation.

Details of operation and maintenance procedures will be found on the pages which follow.



NAMEPLATE OF LeTOURNEAU MODEL XD7 BULLDOZER

PRINCIPAL PARTS OF BULLDOZER

BOWL—Blade-like structure extending across front of tractor which is used to drift dirt ahead of tractor. The bowl supports the 'Dozer blade and two end blades across its lower edge.

BLADE—The replaceable, heat treated, alloy steel cutting edge which is bolted across the lower edge of the bowl. In addition to being replaceable, Bulldozer blades can be reversed and worn along both edges to give longer blade life.

END BLADES—The short replaceable blades at each end of the 'Dozer bowl.

PUSHBEAMS—The boxbeam structures which extend forward from the trunnion brackets, on the sides of the tractor, to support the bowl in front of the tractor. The rear of the pushbeams pivot on the trunnion spools to permit raising and lowering of the bowl.

TRUNNION BRACKETS—The steel plates which are bolted to each side of the tractor track-roller frame, to which the trunnion spools are welded and on which the rear of the pushbeams pivot.

EQUALIZER BRACES—The braces which extend diagonally from the pushbeams to the rear of the 'Dozer bowl. These braces add rigidity to the 'Dozer.

"A" FRAMES—The front and rear "A" frames support the ridgebeam as well as the sheave wheels over which the cable from the Power Control Unit runs to raise and lower the 'Dozer bowl.

RIDGEBEAM—The boxbeam structure connecting the front and rear "A" frames at the top, through which the cable passes.

HOIST SHEAVE HOUSING—The sheave housing that is connected to the top of the bowl at the center for raising and lowering the bowl.

SECT. 1

OPERATION SECTION



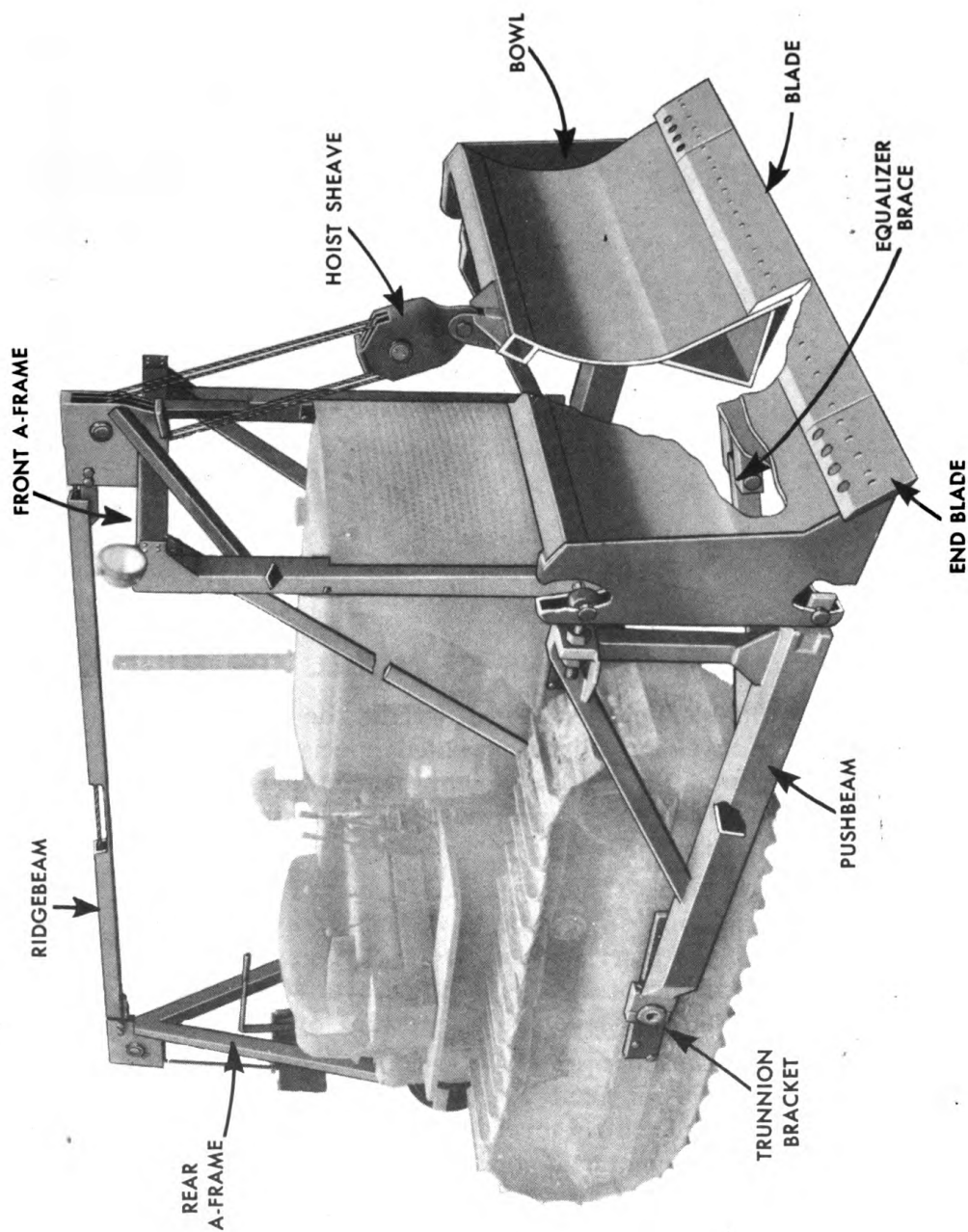
DESCRIPTION AND FUNCTIONS OF MODEL XD7 BULLDOZER

Rugged, dependable, and yet light of weight, the LeTourneau Model XD7 Bulldozer is an electrically arc welded, special analysis steel, box beam constructed unit. Balanced weight distribution helps keep the tractor tracks "geared to the ground", thereby transmitting more tractor horsepower to the tips of the blades.

The 'Dozer is cable controlled by a LeTourneau Power Control Unit, placing quick, positive, uniform action in the hands of the operator. The extreme low drop of the bowl enables the bowl to go down under rocks and stumps and permits control of load down over steep embankments. The high lift gives plenty of leverage for pushing over trees, etc.

The raising and lowering of the bowl is controlled by the Power Control Unit. When the Power Control Unit clutch is engaged, the 'Dozer bowl is raised. When the control lever is returned to neutral position, the Power Control Unit brake holds the bowl at the level to which it has been raised. When the brake is released the bowl is lowered.

The XD7 Bulldozer is built to stand the toughest of job conditions and when properly operated and maintained will give an almost unlimited amount of trouble-free operation.



SPECIFICATIONS

MODEL **XD7 Bulldozer**
 For use with "Caterpillar" New D-7 Tractor

BOWL

Type of cutting edge—reversible with hard surfaced replaceable end blades.

Dimensions of center blade $\frac{3}{4}$ " x 10" x 7'

Dimensions of end blades 1" x 10" x 19"

Height of bowl 3' 9"

Height blade can be raised above ground 3' 1"

Depth blade can be lowered below ground 6'

OVERALL DIMENSIONS

Length 16' 3"

Width 10' 2"

Height 9' 4"

CABLE REQUIREMENTS (Type— $\frac{1}{2}$ " Tournarope)

Length (with front mounted Power Control Unit) 55'

Length (with rear mounted Power Control Unit) 65'

GENERAL SPECIFICATIONS

Type of frame used Pushbeams detachable from bowl

Bearings Roller

Weight (approximate) without Power Control Unit 4370#

PREPARATION FOR INITIAL OPERATION

If the Bulldozer arrives completely or partially disassembled, it is first necessary to assemble the unit and mount it on the tractor. (Instructions for assembling are the reverse of those for disassembling as covered on Pages 26 thru 29.)

After the Bulldozer has been assembled, thread the cable through the sheave housings as outlined in the cable threading instructions on Page 19

Check all points of lubrication to determine if properly lubricated.

Check cable alignment to determine whether it is fouling at any point.

Raise and lower the 'Dozer bowl, checking for free movement. Make sure that the stop block on the hoist sheave housing strikes squarely against block on "A" frame hoist sheave housing.

When the Bulldozer has been thoroughly checked and any necessary corrections made, it is ready to be placed in operation.

SAFETY PRECAUTIONS

As with all heavy equipment, reasonable precautions must be taken when working around the Bulldozer. Listed below are safety precautions which should be observed.

1. When changing blades or working underneath the 'Dozer bowl, always block up under the pushbeams to prevent the bowl from dropping in event someone should accidentally release the Power Control Unit brake.
2. Keep the hands free from the cable and sheaves while the unit is in operation.
3. Use gloves when handling cable.
4. Do not leave 'Dozer with bowl in raised position.
5. Do not use weak, frayed, cable.
6. Keep slack out of cable at all times.
7. When removing trees, make sure that all broken or dead branches have been removed before attempting to push it over.
8. Do not park on incline without lowering bowl to ground.

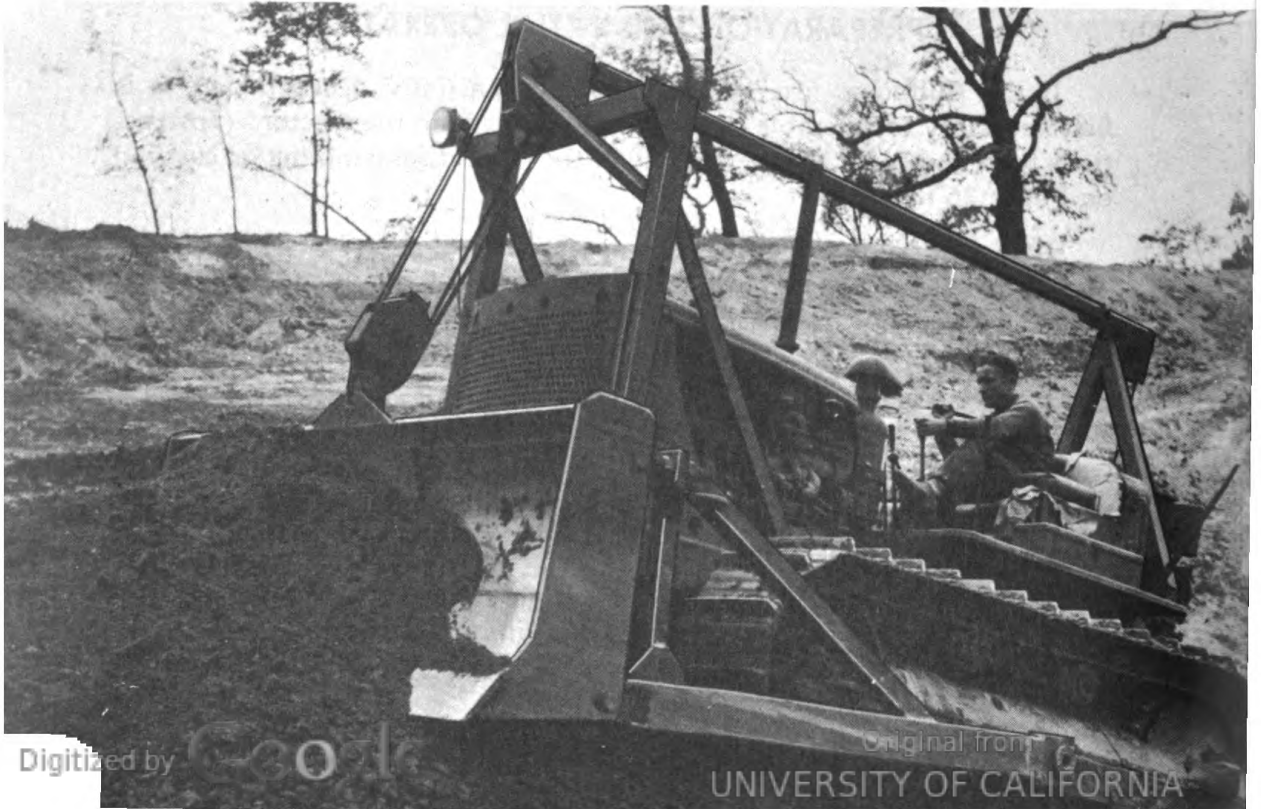
OPERATING TERMS

THE CUT—Place where dirt or other material is being excavated.

THE FILL—Place to which dirt or other material is being moved.

FINISHING—Levelling or smoothing the surface of a finished cut, fill, slope, or other plot of ground.

BULLDOZING—Drifting dirt from one place to another, straight ahead of the 'Dozer bowl.



OPERATING INSTRUCTIONS

THE CONTROLS

The LeTourneau Model XD7 Bulldozer can be operated by either LeTourneau front or rear mounted Power Control Units.

The Bulldozer requires the use of but one cable drum and therefore when it is operated by a rear mounted Power Control Unit the spare drum may either be used to operate other equipment, or left idle.

The 'Dozer bowl is connected with the Power Control Unit by means of the control cable, or wire rope. By engaging the Power Control Unit clutch, the 'Dozer bowl will be raised. By releasing the Power Control Unit brake, the 'Dozer bowl will be lowered. The bowl is held in position when the Power Control Unit control lever is in neutral position.

The instructions below show the direction of movement of the control levers on both the front and rear mounted Power Control Units to engage the clutch and release the brake.

FRONT POWER CONTROL UNIT (MODEL FTD7)

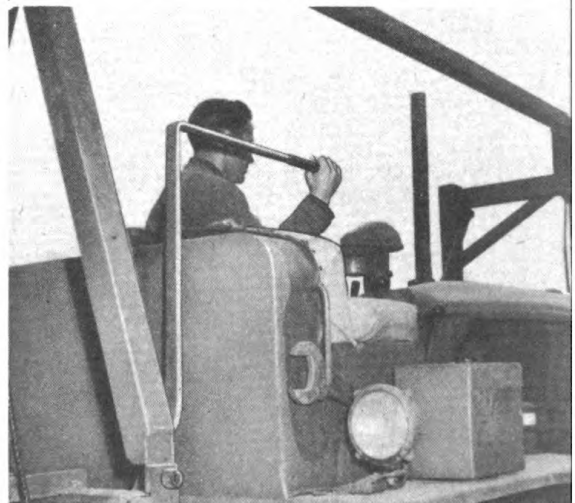
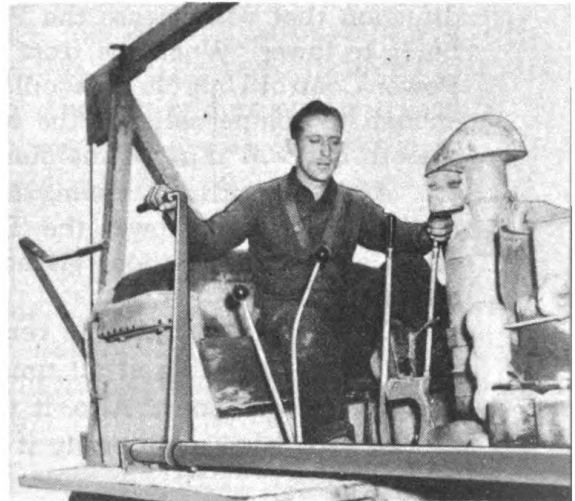
All FTD7 Power Control Units having serial numbers ending with suffix "A" are equipped with controls making use of a flexible cable, and all units having serial numbers ending with the suffix "B" or higher are equipped with rigid controls, as illustrated. On units having the rigid type controls, move the control lever to the left to engage the clutch and raise the 'Dozer bowl. To hold the bowl in this position, return the control lever to neutral position. To release the brake for lowering the bowl, move the control lever to the right. On units equipped with flexible type controls, move the control lever to the rear to engage the clutch and move the lever forward to release the brake.

REAR POWER CONTROL UNITS

The control levers on the rear Power Control Unit are normally in neutral position.

To engage the clutch to raise the bowl, move the right control lever to the left. Returning the control lever to neutral position will hold the bowl in the raised position. To release the brake for lowering the bowl, move the same control lever to the right from the neutral position.

NOTE—For further instructions regarding the operation of the Power Control Unit, refer to the Power Control Unit Manual.



INSTRUCTIONS FOR THE BEGINNER

When the new operator of the LeTourneau Bulldozer gets on a tractor to begin operating, he should raise and lower the 'Dozer bowl until he feels sure of what is going to happen when he moves the Power Control Unit control lever.

It should be remembered, however, that a 'Dozer bowl loaded with dirt will act differently than an empty bowl.

One of the most important things to remember when learning to operate a 'Dozer is to raise or lower the bowl only a small amount at a time—approximately $\frac{1}{4}$ " to 1". Otherwise, if the bowl is raised and lowered 2 to 3 inches at a time while operating, it will cause the blade to cut an uneven surface over which the tractor must travel, which will result in the tractor nosing up and down.

The new operator will soon get in the habit of watching for or anticipating the up and down movement of the front of the tractor when operating over uneven ground. When the front of the tractor starts to raise or nose up, the operator should move the control lever in the direction that will release the Power Control Unit brake, allowing the blade to lower. When the front of the tractor starts to nose down, the Power Control Unit clutch should be engaged to raise the blade, only far enough to compensate for the lowering of the front of the tractor. A smooth cut will thus be maintained.

After operating a while, the new operator will be able to automatically raise and lower the 'Dozer bowl as the front of the tractor raises and lowers without giving it a great deal of thought or special attention.

One important thing to remember when operating is to keep the slack out of the cable at all times, in order to have immediate control over the 'Dozer bowl. Also, it will be found that the cut or roadway can be kept level more easily if the 'Dozer bowl is kept approximately

$\frac{1}{2}$ to $\frac{3}{4}$ full of dirt while traveling forward. Nearly every job presents new problems to 'Dozer operators, but once the inexperienced operator gets the feel of the machine and decides to concentrate on his work, he will find that he can overcome most any operating problem and will find it easy and interesting work.

KEEP EYE ON 'DOZER BOWL AND
FRONT OF TRACTOR



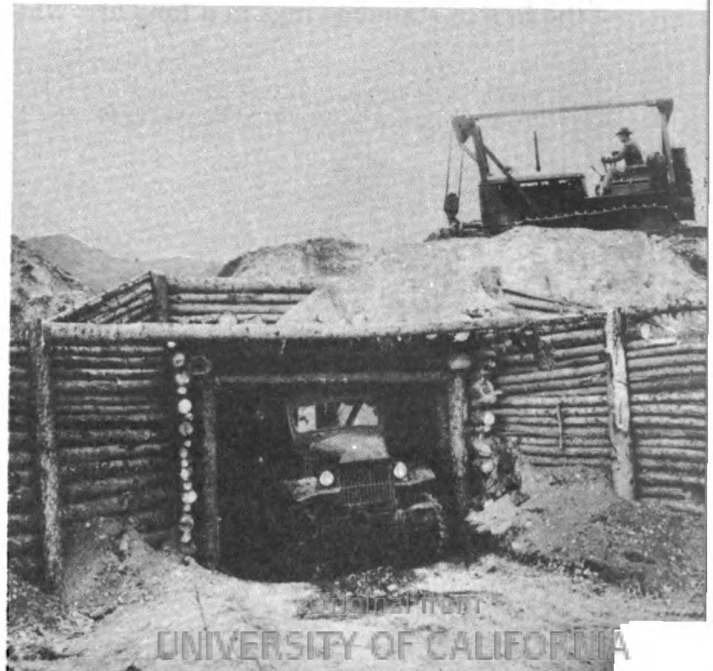
BULLDOZING

The Bulldozer is especially adapted for bulldozing or, in other words, for drifting dirt straight ahead in front of the bowl.

The material should be drifted downhill wherever possible in order to increase production. When drifting the material, a ridge of dirt will be formed by dirt spilling out around the ends of the bowl, thereby causing the unit to work within a trench. Care should be exercised to maintain this trench, in order to get the largest possible loads. Working downhill within such a trench assures loads of maximum size, and sometimes makes it possible to operate the tractor in second or third gear, depending upon the grade.



Sometimes the 'Dozer is used for loading trucks, wagons, etc., with dirt, gravel, sand, or other material by backing the truck or wagon up to a ramp and then bulldozing the material up the ramp and into the bed of the truck or wagon. More often a "grizzly" is constructed, similar to the one illustrated. An opening is left in the platform above the truck, and by bulldozing the material into this opening or "trap," it falls down into the truck, wagon, or other vehicle which is backed in under the "grizzly."



MAKING SIDE-HILL CUTS

The procedure to be followed in starting a side-hill cut with a Le-Tourneau Bulldozer is governed much by the job conditions.

Normally, a side-hill cut should be started at the highest point on the back-slope. However, in instances where the slope is so steep that the tractor can not be brought to the highest point on the slope to start working, the cut must be started at the bottom.

Before starting a cut, guide stakes should first be set at the top of the slopes on the cuts and at the toe of the fills. Then, if possible, the tractor should be brought to the highest point on the slope to start the cut, and a level shelf cut upon which to start working. In cutting the level shelf, one of two methods may be used.

(1) The 'Dozer can be brought down the slope at right angles to the row of slope stakes, pushing dirt ahead of the bowl and thereby building up a ridge of dirt upon which to start working. This ridge of dirt or "shelf" should be constructed at the top of the cut, in line with the row of slope stakes.

(2) A second method of building a shelf on which to start working is performed by starting at the highest point on the back-slope with the tractor at right angles to the line of slope stakes, with the rear of the tractor pointing downhill. When the tractor reaches the row of stakes, the bowl is dropped into the ground and the tractor is swung around. The unit should be brought close enough to the line of stakes so that when the tractor pivots, the point of the bowl will cut right up to the line. Swing the tractor around until it is almost parallel with the slope stakes, at the same time lifting the 'Dozer bowl so that the dirt will roll no further down the slope than the width of the roadway, and not be wasted down the hillside. It will be noted that the point of the bowl cutting against the line of stakes swings in a long arc, while the other end of the bowl has

very little travel. The point next to the slope stakes is half buried in dirt, while the other end is exposed and not moving any material. This procedure should be repeated until a level shelf is constructed upon which to start working.

LOWER BOWL AND PIVOT TRACTOR AS TRACTOR APPROACHES ROW OF SLOPE STAKES



'Dozers are often used to open up side-hill cuts for Carryall Scrapers. In instances of this kind the cut is usually made with the 'Dozer until the shelf which has been cut is wide enough to run a Carryall Scraper on. Then the Carryall Scrapers proceed with the cut.

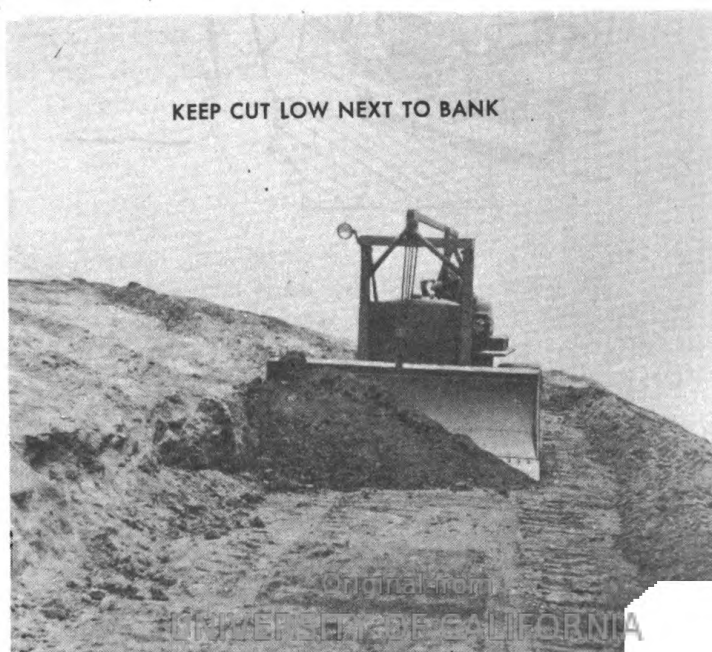


In event the slope is so steep that the tractor can not be brought to the highest point on the slope to start the cut, it should be started at the bottom by cutting into the bank or slope with one corner of the blade and pivoting the tractor to side-cast the dirt. Make a cut wide enough for the tractor to work upon, and build the cut progressively up the slope.

In making a side-hill cut the side next to the back slope should always be kept a little lower than the outside, in order to cause the tractor to lean slightly toward the bank and thereby to stay on solid footing. If the machine is operated when leaning away from the bank, the operator will have trouble in maintaining a back slope. Also, when the bench slopes away from the bank, the tendency of the tractor to ride down over the edge of the loose fill material makes it difficult to place the material where it is needed.

The required back slopes usually vary in steepness from $\frac{1}{2}$ -1 to 2-1. When making the cut, try to maintain the correct back slope as the work progresses. The slope is usually cut in a series of steps for a height which is equal to the width of the bowl, and then the steps are trimmed off by running the tractor along the slope with the 'Dozer bowl lowered only enough to cut off the steps.

After a level shelf has been built upon which to work, the unit can be operated parallel with the slope stakes, cutting a bench or level shelf as it proceeds. In proceeding with the cut, it will be necessary to pivot the tractor and swing the bowl to one side to side-cast the dirt.



CLEARING

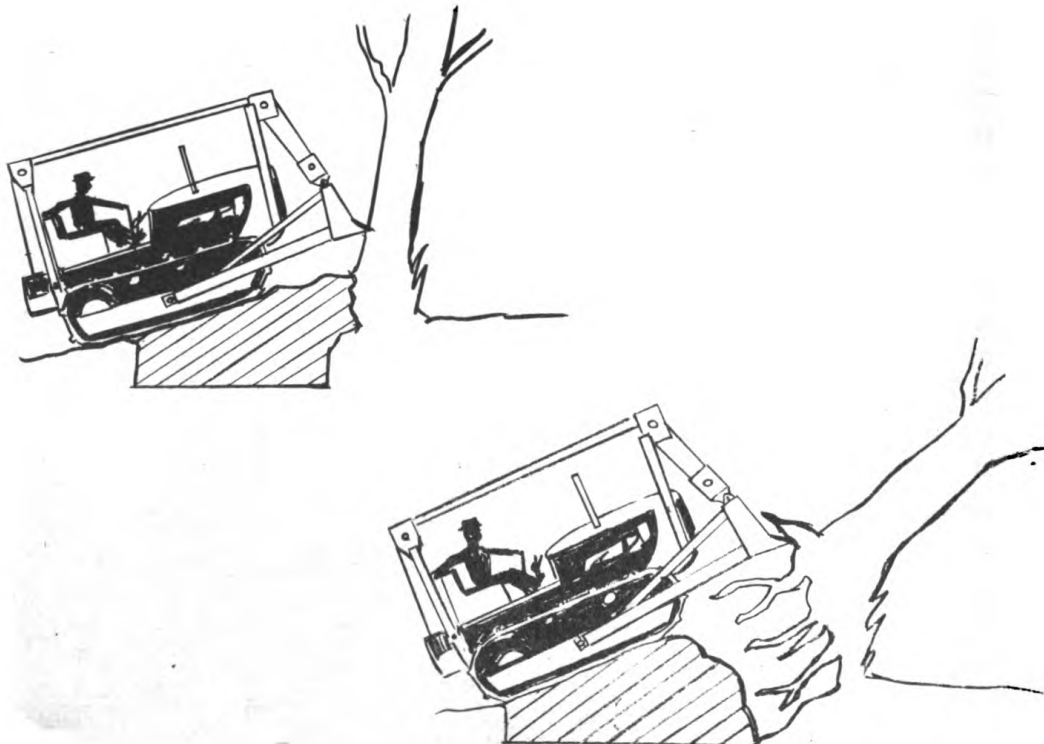
LeTourneau Bulldozers are often used to clear land of trees, stumps, brush, mesquite, etc.

Of all clearing operations, that of pushing over trees is the most difficult. However, by following the instructions below, practically any experienced operator can push over surprisingly large trees with a 'Dozer mounted on one of the larger size track type tractors. The XD7 Bulldozer mounted on the new D-7 tractor provides the strength and weight necessary in this operation.

To remove a large tree, first cut all side roots by encircling the tree trunk with the blade. After the larger roots have been cut, drive the tractor up to the tree with the 'Dozer bowl raised to maximum height. If the ground around the tree slopes, approach the tree from the highest side in order to take advantage of the greatest possible leverage.

In an attempt to push over the tree, do not charge or run up against the trunk of the tree at full speed, but slowly advance the tractor and place the 'Dozer bowl against the tree trunk, as high as possible, and then try to spring the tree by engaging the tractor flywheel clutch with the engine running at full throttle, thereby utilizing the full power of the tractor.

The operator should be alert to avoid being hit by falling limbs when starting to push.



If the tree does not give or start to fall, the tractor should be backed away and more of the roots cut. It may be necessary to cut rather deep next to the tree to get at the deeper roots. Then, the ditch that has been cut along the front side of the tree should be filled with dirt and additional dirt pushed up at this point to serve as a ramp and provide increased leverage for the 'Dozer when pushing against the tree from this side.

Push the tree until it starts to fall or lean. Then immediately back away and drop the blade below the roots. After having dropped the 'Dozer blade below the tree roots, again apply the power of the tractor against the tree, with one steering clutch disengaged. This will keep the tractor engine from stalling while the Power Control Unit is in operation and the tractor force is applied against the tree. As the tree continues to fall, the steering clutch should be engaged and the full power of the tractor applied to both tracks.

Stumps can be removed with the Bulldozer in somewhat the same manner and with little difficulty. However, since it is impossible to push as high up on a stump as on a tree it is necessary to cut deeper around the stump to get the 'Dozer blade below the roots.

When clearing, it should be remembered that it is much easier and faster to take out the entire tree with the 'Dozer than to cut it down and remove the stump later.

REMOVING ROCKS AND BOULDERS

The procedure for digging out rocks and boulders is similar to that for removing stumps. However it is difficult to establish a set of rules to be followed, since it seems that a slightly different procedure is required with each rock.

Usually it is advisable to first dig around the rock and then work one corner of the blade down under the rock. When the corner of the blade is caught firmly under the rock, disengage one steering clutch to keep the tractor engine from stalling, and engage the Power Control Unit clutch, thereby hoisting the 'Dozer bowl and giving the rock a rolling action.

When moving rock on a side cast job, such as widening out a cut, etc., dig in with the corner of the blade and then, while moving forward, give the bowl a three or four foot lift. Don't repeatedly let the corner of the blade dig in where the tractor keeps stalling. Instead, disengage the steering clutch opposite the corner of the blade which is against the rock, and raise and lower the blade into the rock, thereby causing it to dislodge itself.

FINISHING

Most operators find that it requires somewhat more experience to finish efficiently with a 'Dozer than it does to do most other types of 'Dozer work. However, there are many jobs upon which it is found advisable to finish with 'Dozers, and in instances of this kind any experienced operator can, with a little practice, handle the job without a great deal of difficulty.

When starting to finish, adjust the bowl into the level position. Keep the tractor tracks level on the first cut. By doing this the 'Dozer blade will be started level with the finished grade.

Before lowering the bowl, place the tractor in motion. Then lower the bowl gradually and feed it into the ground. Make sure, however, that the tractor tracks are level as the blade enters the ground. If the bowl should be dropped suddenly, the blade will have a tendency to gouge.

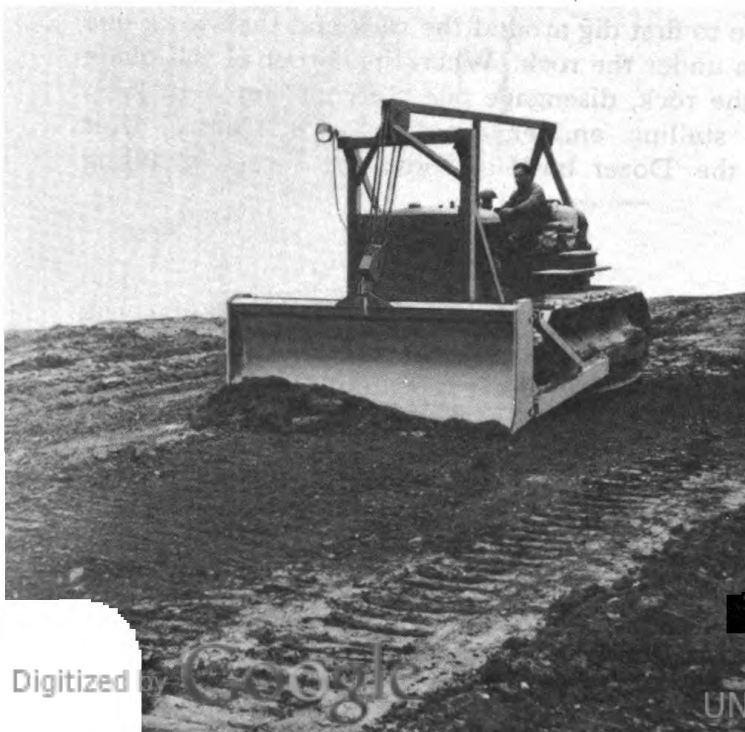
Keep the raising and lowering of the 'Dozer bowl synchronized with the up and down movement of the front of the tractor as outlined in previous instructions, in order to keep the work level.

For rough finishing, it is usually found that by operating the tractor in the fastest gear possible without lugging the motor down and at a steady rate of speed, the finished work will be smoother and the rate of progress will, of course, be faster. For fine finishing, many operators prefer low gear.

Always keep the bowl at least half full of dirt. This will cause the blade to cut the high spots easier and to fill in the low spots with the extra dirt.

After having finished a part of a job, use the finished work as a guide for the rest of the job by allowing approximately $\frac{1}{4}$ of the blade to overlap the finished work and guide the depth of the cut and spread.

Small irregularities in a finished surface are sometimes smoothed out by dragging the bowl backward over the fill. This should only be done in finishing, however, and should not be done in rocky soil.



FROZEN GROUND

When operating in frozen ground it is often difficult to break through the top frozen surface. In cases of this kind it is sometimes necessary to lay a railroad tie or log lengthwise in the path of one of the tractor tracks, or to run one track up on a ledge of dirt so that when the one track is run up on the log, tie, or dirt, the opposite corner of the blade will dig in. By driving the tractor forward and backward with the corner of the blade in the ground, it will wear down through the frozen top soil.



After once having broken through the top soil, it is a fairly simple matter to break the surrounding frozen soil out in large chunks, by bringing the blade up under the frozen surface and hoisting with the 'Dozer bowl. It will often be necessary to disengage one steering clutch during this operation to prevent stalling the tractor engine.

INCREASING PRODUCTION

The more often a 'Dozer can push its load through the same path, the more efficient is its performance. The dirt that must obviously waste around the ends of an open blade forms windrows. Travel in the same path utilizes the previously windrowed material as wings to keep the dirt in front of the bowl and prevent loss around the ends. In the case of pushing material several hundred feet, a trench may be formed in which the machine travels. The deeper the sidewalls, the more dirt that can be carried without loss.

Down hill dozing is to be desired because it gives more yardage per hour. A favorite method is to take four or five passes to the brink of the steepest slope, then ride the dirt down to its final resting place in quantities many times in excess of individual loads.

Often, two or three 'Dozers will work abreast in this manner. The idea is to prevent endspill by having the blades work side by side, preventing end loss except at the two outside edges.



PUSHING

The use of a pusher tractor when loading or unloading Carryall Scrapers is often recommended to boost production.

When using the Bulldozer as a pusher it should be remembered that this tool was designed primarily for other purposes, and that if improperly operated, or if used with a Scraper having the wrong type of pusher block, the 'Dozer bowl may become damaged through abuse.

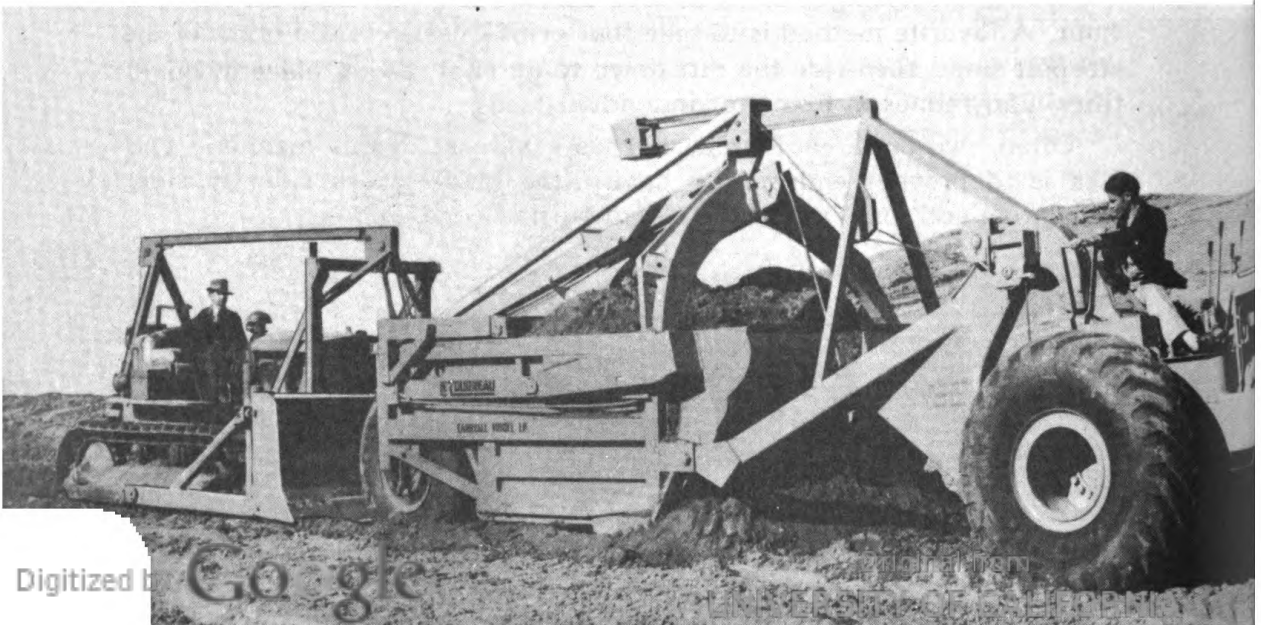
The correct pusher block for use on a Scraper being pusher loaded or dumped by a Bulldozer is the bar type block. This type consists of a horizontal bar, either of all steel construction with a curved face, or of wood filled channel construction.

Always try to make easy contact with the pusher block when starting to push. After having brought the 'Dozer bowl into contact with the pusher block, move forward with the lead tractor and Scraper, assisting in the loading or unloading of the Scraper.

The speed of the pusher tractor should be synchronized with that of the lead tractor, travelling along at the same rate of speed. When pushing a tractor drawn Carryall Scraper, the lead tractor should be allowed to labor harder than the pusher tractor. When pushing a Tournapull drawn Scraper the pusher tractor should supply most of the power for loading. In either case, if the Scraper should start to "jack-knife," increase the speed of the lead tractor until it straightens out.

Be careful to avoid pushing the Scraper sideways as this practice may cause chaffing and cutting of the tires. Try to keep the lead tractor, Scraper, and pusher tractor operating in a straight line at all times. Be very careful not to permit the 'Dozer blade to cut into the rear tires of the Scraper.

An efficient operator on a pusher tractor will plan his work so that he can make contact with the Scraper that is to be pushed with the least possible delays, thereby eliminating unnecessary lost motion of the Scraper unit. When using the Bulldozer as a "pusher," the 'Dozer may be used for levelling, etc., while waiting for another Scraper.



OPERATION UNDER DUSTY, MUDDY, LOW TEMPERATURE, AND OTHER ABNORMAL CONDITIONS

No special instructions are necessary for the operation of the Bulldozer in dusty or muddy conditions.

Use lighter greases when operating in cold temperatures than those used when operating in warm temperatures. (Refer to lubrication instructions.)

Be sure there is no dirt left in the 'Dozer bowl at the end of the operating day in cold weather, as it will be frozen tight by morning, and it might be necessary to thaw it out before any work could be done. When shutting down for the night, lower the bowl on to planks rather than onto the ground to prevent the bottom of the bowl from freezing tight to the ground.

CABLE THREADING

If the Bulldozer is to be operated from a rear mounted Power Control Unit the cable should be threaded as follows.

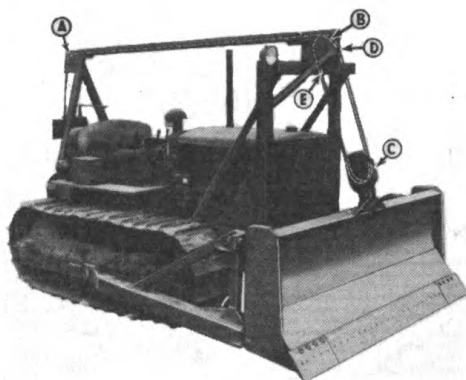
From the right drum of the Power Control Unit the cable is threaded up over sheave in housing (A), then forward through the ridgebeam and over the top of the right sheave in housing (B), down around the right sheave in housing (C), up and over the left sheave in housing (B), down around the left sheave in housing (C), and then up and dead ended at the cable wedge (D) on the left side of housing (B).

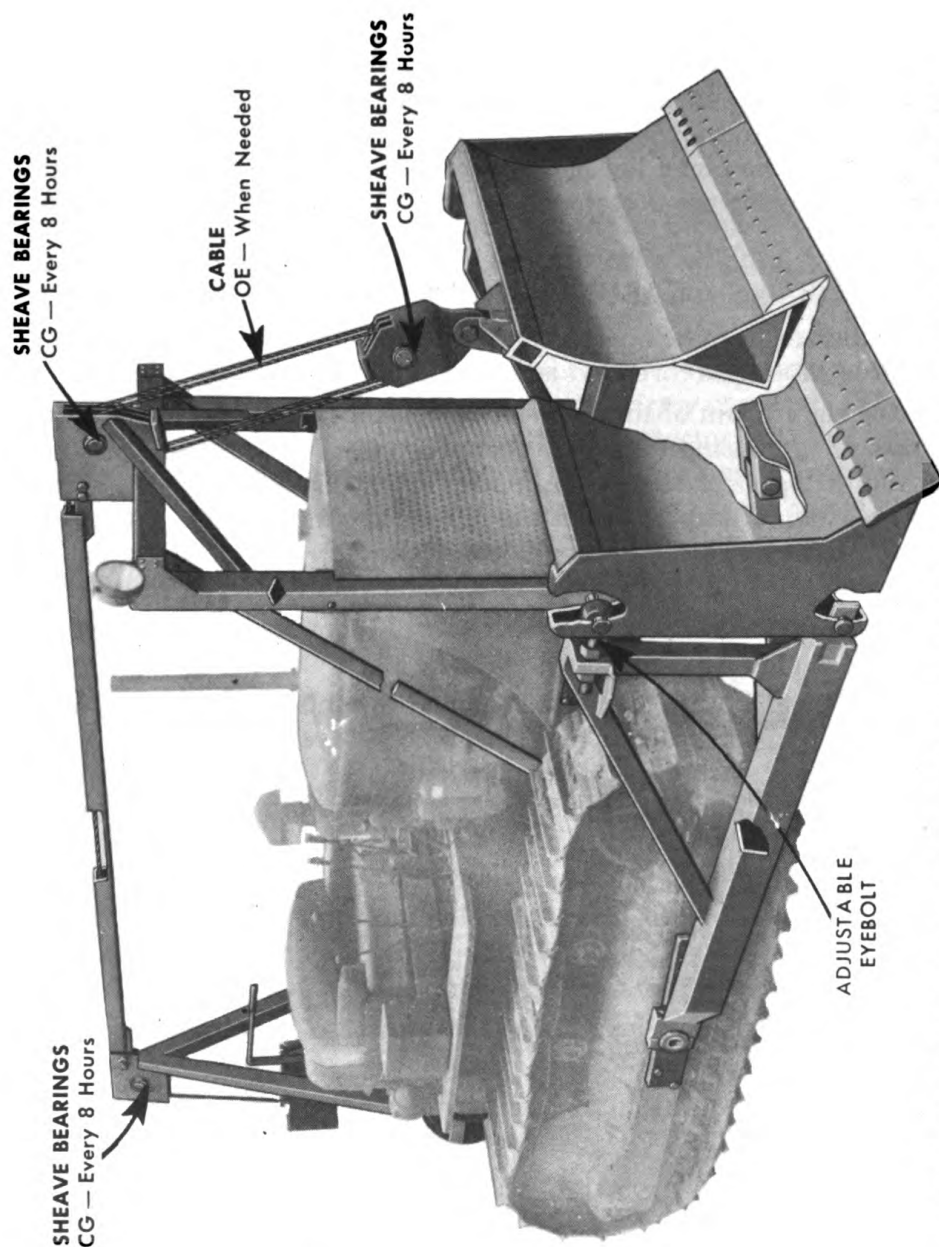
If the Bulldozer is to be operated from a front mounted Power Control Unit the cable should be threaded as follows.

From the Power Control Unit cable drum the cable goes up and enters the left sheave in housing (B) from the rear, then over and down around the left sheave in housing (C), then up and over the right sheave in housing (B), then down and around the right sheave in housing (C), and then up and dead ended at cable wedge (E) on the right side of housing (B).

For instructions for threading the cable onto the Power Control Unit cable drums, refer to the cable threading instructions in the Manual covering the particular model of Power Control Unit that is used.

For size, diameter, and length of cable refer to "Specifications" on Page 7 of the Operation Section.





CUT-AWAY VIEW OF LeTOURNEAU MODEL XD7 BULLDOZER SHOWING POINTS OF LUBRICATION AND ADJUSTMENT THAT CAN BE TAKEN CARE OF BY OPERATOR

LUBRICATION

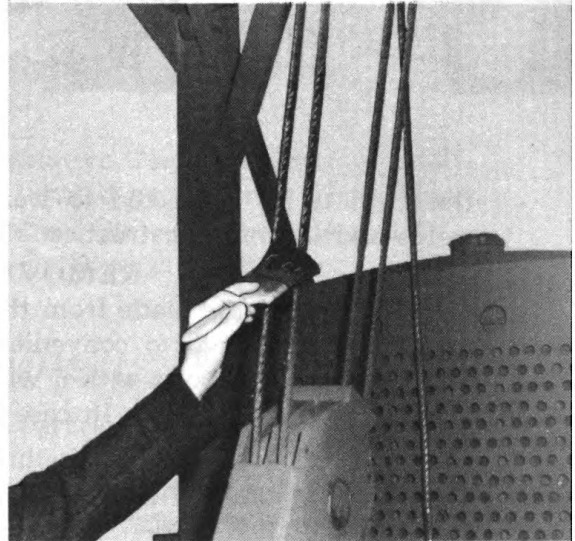
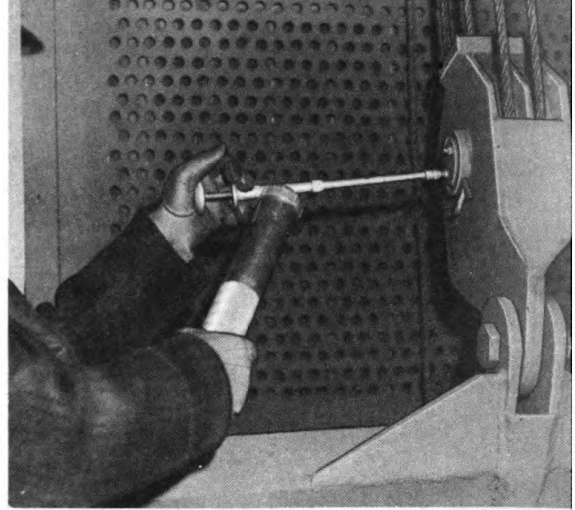
Sheave Bearings

Lubricate the sheave bearings every 8 hours of operation, using a conventional pressure type grease gun.

Insert one or two shots of grease through the grease fittings, forcing old grease out around the hubs of the sheave wheels. Use CG-1 (grease, general purpose, No. 1) in temperatures above $+32^{\circ}\text{F.}$, and CG-O (grease general purpose, No. O) in temperatures below $+32^{\circ}\text{F.}$

Cable Lubrication

Lubricate the cable sparingly at infrequent intervals to serve as a rust preventative. Use OE-10 (oil, engine, SAE 10) or OE-30 (oil, engine, SAE 30.) If the Power Control Unit is equipped with woven clutch and brake facings, do not lubricate that part of the cable which wraps onto the cable drum because of the danger of oil getting onto the facings, causing clutch and brake slippage.



ADJUSTMENTS

EYEBOLT ADJUSTMENT

The bowl of the LeTourneau Model XD7 Bulldozer can be adjusted within certain limits by means of the adjustable eyebolts at the upper corners of the bowl.

By turning the hex nuts on both eyebolts an equal amount either to the front or to the rear, the top of the bowl will be moved a short distance forward or backward, thereby changing the digging angle of the blade, and possibly resulting in a change in the digging characteristics of the Dozer. This adjustment should normally be made only if the blade shows a tendency not to dig properly.

Also, by turning the nuts on one eyebolt without turning the nuts on the other, one side of the bowl can be raised or lowered within certain limits to correct any tendency of the bowl to dig deeper on one side than on the other. Turning the nuts forward on the eyebolt on one side lowers that side of the bowl, while turning the nuts to the rear on the eyebolt raises the bowl on the same side.

Although the adjustable eyebolts make possible a slight tilting of the blade if desired, the Bulldozer is normally operated with the bowl in a level position.

BLADES AND END BLADES

The Bulldozer bowl is equipped with one center blade and two end blades, each of which is replaceable. In addition to being replaceable, the center blade can be reversed when worn along one edge, thereby doubling the blade life.

The blades should be changed before they wear back far enough to cause

the bowl to be subjected to wear, which would result in damage to welds and ultimate destruction of the bottom of the bowl.

REMOVING BLADES

To remove the blade from the Bulldozer, first raise the bowl off the ground, high enough to conveniently reach the hex nuts on the lower ends of the blade bolts with a wrench. Place blocks under the bowl to prevent it from dropping in case the Power Control Unit brake should be accidentally released.

Then, using the blade wrench, remove the blade bolts which secure the blade to the bowl.

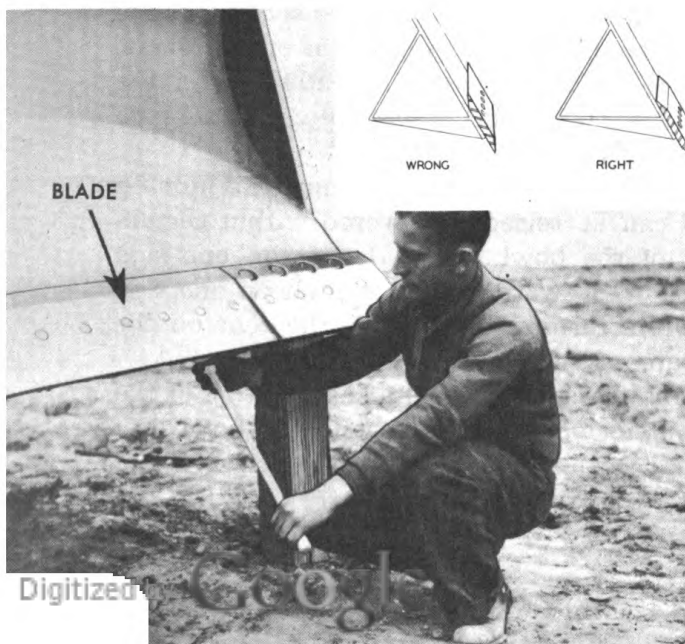
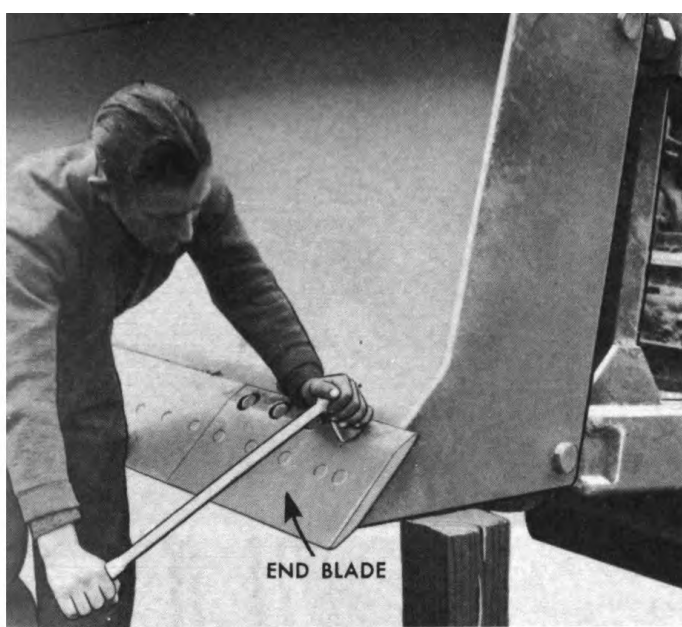
End tips can be removed in the same manner as blades, excepting that it is also necessary to remove the end-tip capscrews.

INSTALLING BLADES

To install a new blade on the Bulldozer, raise the bowl and place blocks under the sidearms or bowl to prevent the bowl from falling if the Power Control Unit brake should be accidentally released.

After laying the blade in place, the use of a round drift punch will be very helpful in lining up the holes. Re-install the blade bolts, tightening them down evenly and making sure they are tight.

The center blades should be installed with the beveled edges positioned as illustrated.



PREPARATION FOR STORAGE

(A) LIMITED STORAGE

Before placing the 'Dozer in storage, the following steps should be taken:

1. Wash the 'Dozer clean of all dirt, grease, etc.
2. Lubricate all points of lubrication.
3. If the paint has been worn off the bowl and the 'Dozer is to be stored in the open, either paint the bowl or coat it with oil or rust preventative to prevent rust.
4. If the 'Dozer and tractor are to be stored in the open, run the tractor up onto planks and lower the 'Dozer bowl onto blocks.

(B) DEAD STORAGE

For further instructions, refer to Tentative Technical Manual TM5-9715, "Storage of Engineer Equipment," issued by Engineer Field Maintenance Office, P. O. Box 1679, Columbus, Ohio. (superceding Tentative Preventative Maintenance Manual, "Storage of Engineer Equipment").

EXPORT SHIPMENT

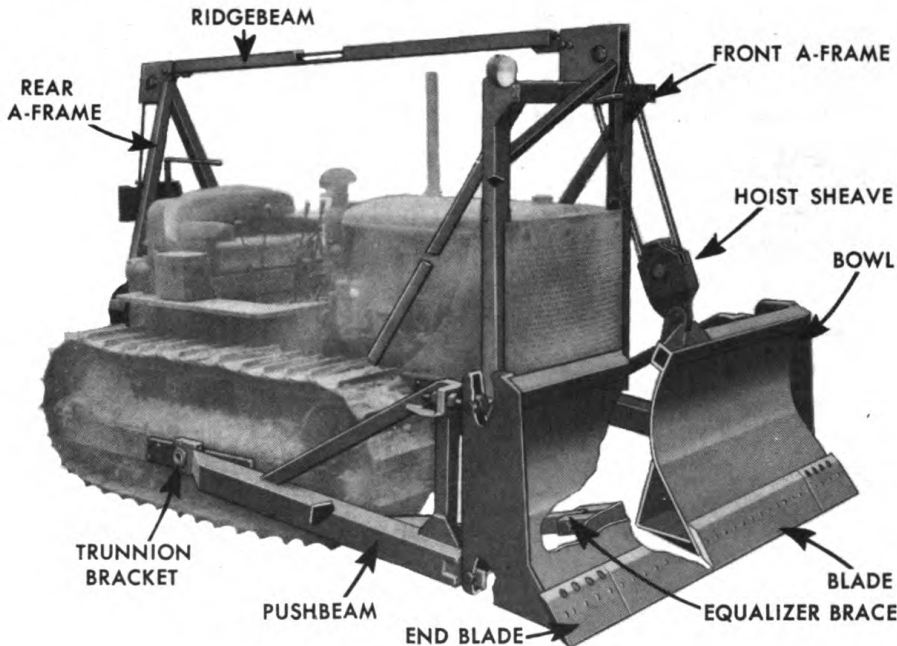
For instructions covering the preparation of the equipment for export shipment, refer to Technical Bulletin TB5-3092-1 published by Engineer Field Maintenance Office, P. O. Box 1679, Columbus, Ohio.

REPAIR SECTION

SECT. 2

REPAIR AND MAINTENANCE

LeTourneau Bulldozers are comparatively simple in design and are sturdily constructed of special analysis alloy steel by the electric arc welding process. They have few working parts and points of adjustment and if properly operated and maintained, they should give an unlimited amount of trouble-free service.



ADJUSTMENTS

The eyebolts, mounting bolts, etc., should be kept tightened at all times. The trunnion bracket capscrews should be checked often. There are no points of adjustment on the XD7 Bulldozer which require the attention of maintenance and repair men at specified hourly intervals.

Operators adjustments are covered on Page 21

LUBRICATION

Refer to Lubrication Instructions on Page 21

CABLE

Refer to Page 7, for specifications covering cable or wire rope.

BLADES

For instructions covering the removal or installation of blades and end blades, refer to Page 22

DISASSEMBLING

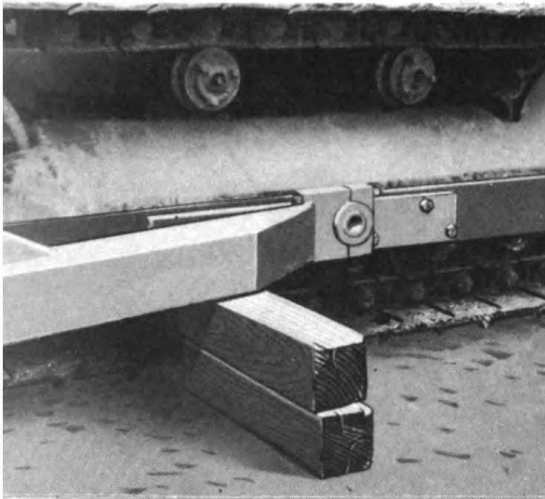
Removing Bowl and Pushbeam Assembly

To remove the Bulldozer bowl and pushbeams from the tractor, first remove the bolt which attaches the hoist sheave assembly to the top of the bowl, and raise the sheave assembly up against the stop blocks on the "A" frame by use of the Power Control Unit.

Block up under the pushbeams on each side as illustrated. This will prevent the pushbeams from dropping when the trunnion caps are removed, thereby eliminating the necessity for raising the pushbeams when reinstalling.

Remove the trunnion caps from each of the pushbeams, freeing the pushbeams from the trunnion spools.

After the trunnion caps and hoist sheave assembly have been removed, back the tractor out from between the pushbeams, being careful not to knock the bowl and pushbeam assembly off the blocks.



Disassembling Equalizer Braces, Pushbeams, and Eyebolts From Bowl

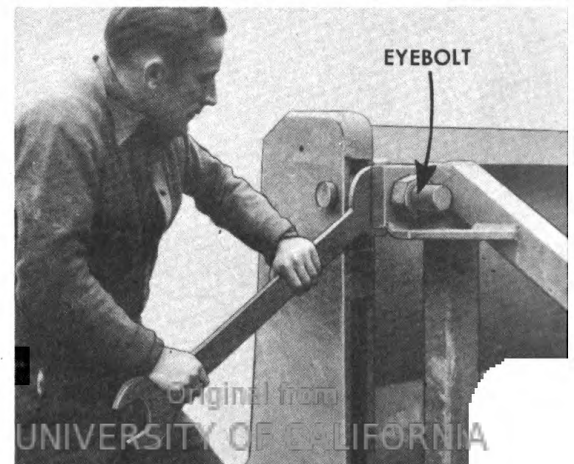
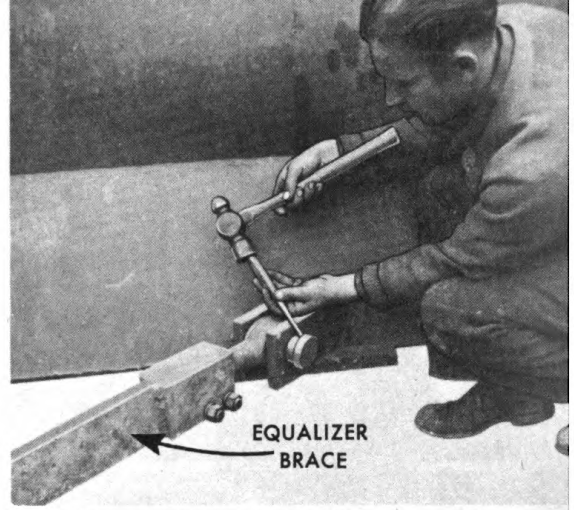
To disassemble the equalizer braces, pushbeams, and eyebolts from the bowl, first remove the bowl and pushbeam assembly from the tractor, as outlined in the preceding instructions. Then proceed as follows:

EQUALIZER BRACES. To disconnect the equalizer braces from the bowl, first remove the cotter pins and lock pins from the link pins which connect the equalizer braces to the bowl. Then drive out the link pins. If the equalizer braces are to be removed from the pushbeams, remove the link pins which connect them in a like manner.

PUSHBEAMS. To remove the pushbeams from the 'Dozer bowl, first remove the cotter pins and lock pins from the link pins which connect the pushbeam structure with the top of the bowl. Then drive out the link pins.

The link pins which connect the pushbeams with the bottom of the bowl can be removed in a like manner, thereby freeing the pushbeams from the bowl.

EYEBOLTS. To remove the eyebolts from the pushbeam structures, simply remove the nuts from the eyebolts by backing them off, and then pull out the eyebolts.



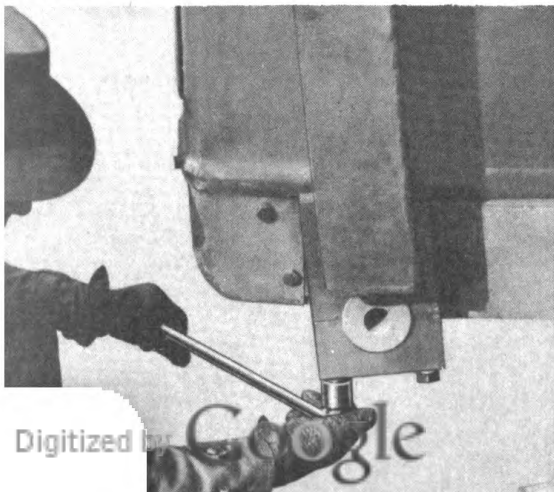
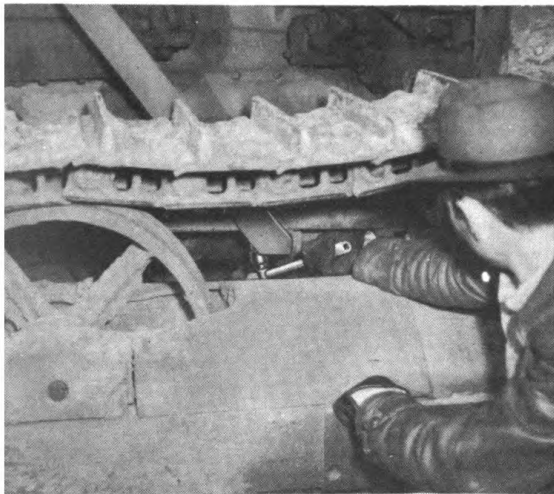
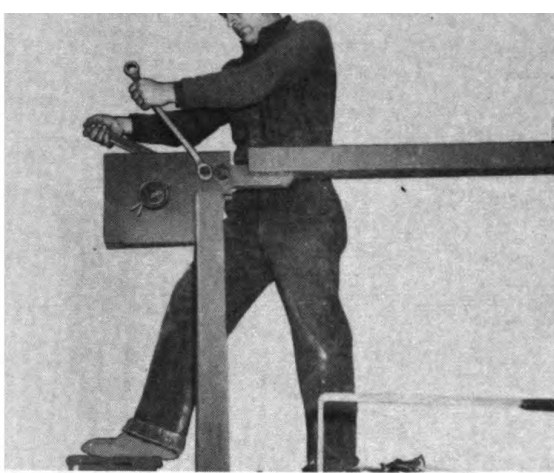
Removing Front and Rear A-Frame and Ridgebeam

To remove the front and rear A-frames and ridgebeam it is first necessary to remove the hoist sheave housing and the cable. Then remove the ridgebeam by removing the cap-screws which secure the ridgebeam to the front and rear A-frames.

With a chain hoist attached to the top of the rear A-frame, remove the capscrews which secure the A-frame to the tractor and remove the A-frame, using the chain hoist.

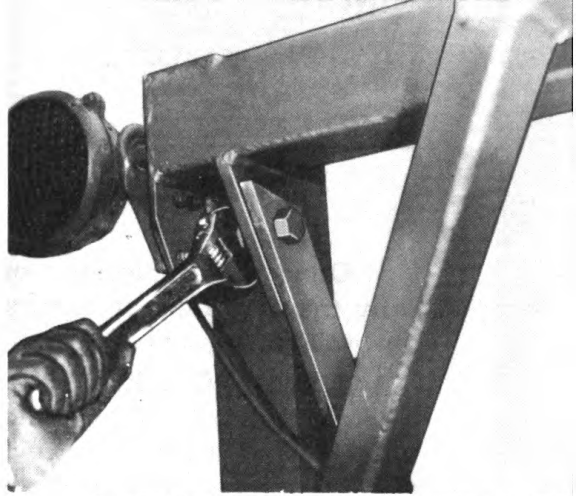
Then attach the chain hoist to the top of the front A-frame. Remove the capscrews which secure the lower ends of the diagonal braces to the tractor frame.

Then remove the clamp block at the lower end of the A-frame by removing the capscrews, thereby freeing the clamp block from the spool on the foot plate. Then remove the A-frame, using the chain hoist.



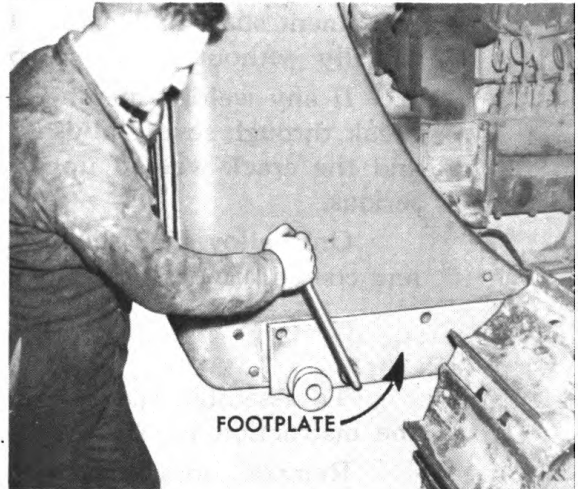
Disassembling Front A-Frame

To disassemble the front A-frame first remove the A-frame from the tractor as outlined in the preceding instructions. Then remove the diagonal braces from the A-frame by removing the capscrews which secure them to the A-frame.



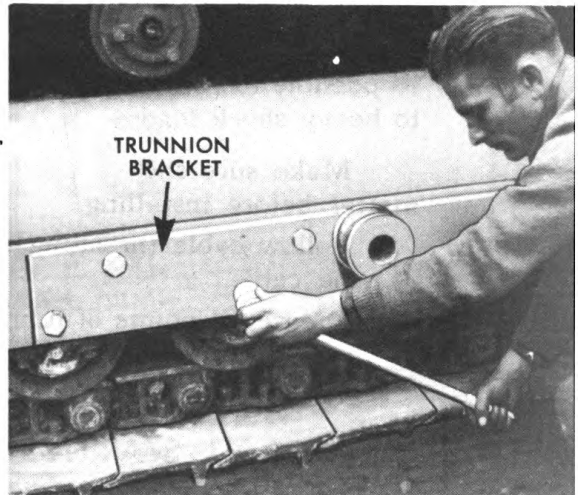
Removing Footplates

To remove the footplates first remove the front A-frame as outlined on the preceding page. Then remove the capscrews which secure the footplates to the tractor frame and remove the plates.



Removing Trunnion Brackets

To remove the trunnion brackets it is first necessary to remove the bowl and pushbeam assembly as previously outlined. Then remove the capscrews which secure the trunnion brackets to the tractor track roller frames, thereby freeing the trunnion brackets from the tractor.



Removing Sheave Wheels, Bearings, Pins, Etc.

To remove the sheave wheels, bearings, pins, and dust seals from the sheave housings, first remove sheave pin. Then remove sheave wheel (or wheels) from housing and remove dust seals and bearings from hubs of wheels.



INSPECTION OF PARTS FOR REPLACEMENT AND REPAIRS

Other than replacing worn cable, sheaves, bearings, or pins, practically the only type of repairs ever required on LeTourneau Bulldozer are welding repairs.

WELDING REPAIRS—Since LeTourneau 'Dozers are welded together and made of high alloy steel, breakage of any of the main structures seldom occurs. However, it is impossible to build any type of machinery, even heavily constructed electrically arc welded alloy steel equipment such as 'Dozers, that will withstand all types of abuse continually without occasional breakage.

If any welded member of a LeTourneau 'Dozer starts to crack or break through severe abuse, the 'Dozer should be stopped immediately and the crack welded up and reinforced before the damage becomes serious.

Only alloy steel should be used in reinforcing LeTourneau 'Dozers and coated arc electrodes used in welding.

RE-ASSEMBLY

To assemble and install the 'Dozer on the tractor, simply reverse the instruction for disassembly.

Reinstall lockwashers in all positions where they were removed during disassembly.

When installing the trunnion brackets, tighten the bolts as tight as possible to prevent any chance of them shearing off when subjected to heavy shock loads.

Make sure sheave bearings are free of dirt, grit, or other foreign matter before installing.

Follow cable threading instructions on Page 19 when threading the cable.

Grease all points of lubrication before placing 'Dozer in operation.

**TABLE OF CLEARANCES AND TOLERANCES OF
ALL BEARINGS AND ADJUSTABLE PARTS**

POINT OF ADJUSTMENT	CORRECT ADJUSTMENT	ALLOWABLE TOLERANCE
Sheave Bearings— (straight roller)	Non-adjustable	.....

PARTS CATALOG

WARNING

SPARE PARTS can be supplied promptly and accurately only if positively identified by correct part number and correct part name.

FURNISH THIS INFORMATION ON ALL REQUISITIONS. WITHOUT FAIL, on all requisitions, give name of machine, name of manufacturer, model or size, manufacturer's serial number of each machine and subassemblies attached to machine, and components and accessories for which spare parts are required.

List spare parts for only one make or kind of machine on each requisition.

Requisitions must be double spaced to provide room for office notations when necessary.

SECT. 3

PARTS CATALOG
FOR
BULLDOZER, TRACTOR—
MOUNTED, CABLE—OPERATED,
MODEL XD7

(FOR USE WITH CATERPILLAR D7 TRACTOR
SERIAL NO. 7M-1 AND UP, AND LETOURNEAU
R7 OR FTD7 POWER CONTROL UNIT.)

On this page is shown a sample spare parts requisition on QMC Form No. 400 which conforms to the latest revisions. The marginal notes give instructions for preparing a requisition for spare parts for Engineer equipment.

The revised QMC Form 400 has new column headings. Until new forms are available use the present form and type or write in corrections in column headings as shown below.

Under revised heading "Nomenclature" and "Unit" list the article and the unit (ea for each; lb for pound; etc.). Under heading "Maximum or Authorized Level" list the authorized organizational allowances or depot stock levels given in ENG 7 and ENG 8 of the ASF

Engineer Supply Catalog (superseding Part III, Corps of Engineers Supply Catalog). The total number on hand for each item is listed under "On Hand". In column headed "Due In" enter the total quantity previously requisitioned but not delivered. Column headed "Required" is to be changed to read "Quantity Desired" and column headed "Approved" is to read "Remarks." For "Initial" and "Replenishment" requisitions, the sum of "Quantity Desired", "Due In", and "On Hand" should equal "Maximum or Authorized Level."

(Additional details on this subject are covered in ENG I of the ASF Engineer Supply Catalog which incorporates information formerly contained in Section AA-I, Part III, Engineer Supply Catalog.)

State PERIOD designation by use of one of the following terms:

- (1) "INITIAL"—first requisition of authorized allowances.
- (2) "REPLENISHMENT"—subsequent requisitions to maintain authorized allowances.
- (3) "SPECIAL"—requisitions for necessary repairs not covered by allowances.

Type "SPARE PARTS" in upper right hand corner of requisition.

Address requisitions to Engineer Field Maintenance Office, P. O. Box 1679, Columbus, Ohio (except for spare parts for searchlights and barrage balloons which are addressed to Schenectady, N. Y. or Ogden, Utah ASF depots).

Give complete shipping instructions. Special instructions for packing, marking, routing, etc., should be given at bottom of requisition.

State proper nomenclature of machine, also make, model, machine serial number and U. S. A. registration number.

Prepare a separate requisition for each different machine.

State basis or authority and date delivery is required, immediately below description of machine.

Double space between items.

Group parts required under group headings as shown in manufacturers' parts catalogs (Technical Manuals).

State OCE stock numbers, manufacturers' parts numbers and nomenclature accurately and completely. Do not use abbreviations.

W.A.R. DEPARTMENT OF THE U. S. ARMY (Revised 10 Aug 1943)		REQUISITION		SPARE PARTS	
To: ENGINEER Field Maintenance Office P. O. Box 1679, Columbus, Ohio	Requisition No. E-008-4-44	Date 10 JANUARY 1944	Period	Replenishment	Sheet No. 1
SHIP TO: Engineer Property Officer, FORT LEVIS, WASHINGTON					
MARKED FOR: Supply Officer, 10th Engr. Regiment, FORT LEVIS, WASHINGTON					
Requisitioner By (show Signature, Rank, Organization, Destination. If different from "SHIP TO" indicate address). Robert F. Poe, Major, C. E., Engineer Property Officer					
Approved By For the Commanding Officer: John F. Doe, Col., C. E., Executive Officer					
SYMBOL	NOMENCLATURE AND UNIT	MAX. AUTH. LEVEL	ON HAND	DUE IN	QUANTITY
BASIC: to replenish second echelon apt					
DELIVERY: by February 5, 1944					
BOWL GROUP					
C-2621	BLADE, CENTER	EA	4	1	0 3
C-2145	CAPSCREW	EA	24	10	0 12
A-FRAME GROUP					
H-9695	RIDGEBEAM STRUCTURE	EA	2	1	0 1
H-9564	A-FRAME, REAR	EA	2	1	0 1
C-172	SHAFT WHEEL	EA	10	5	0 5
C-174	PIN	EA	10	5	0 5
TRUNNION BRACKETS					
F-9271	BRACKET, RIGHT	EA	2	1	0 1
F-9272	BRACKET, LEFT	EA	2	1	0 1

*Nonexpendable items such as tools must be accounted for, when requisitioned, by a statement that they have been placed on REPORT OF SURVEY or STATEMENT OF CHARGES.

Emergency requisitions sent by telephone, teletype, cablegram, telegraph or radio must be confirmed immediately with requisition marked: "Confirming (state identifying data)."

PREPARATION OF REQUISITIONS

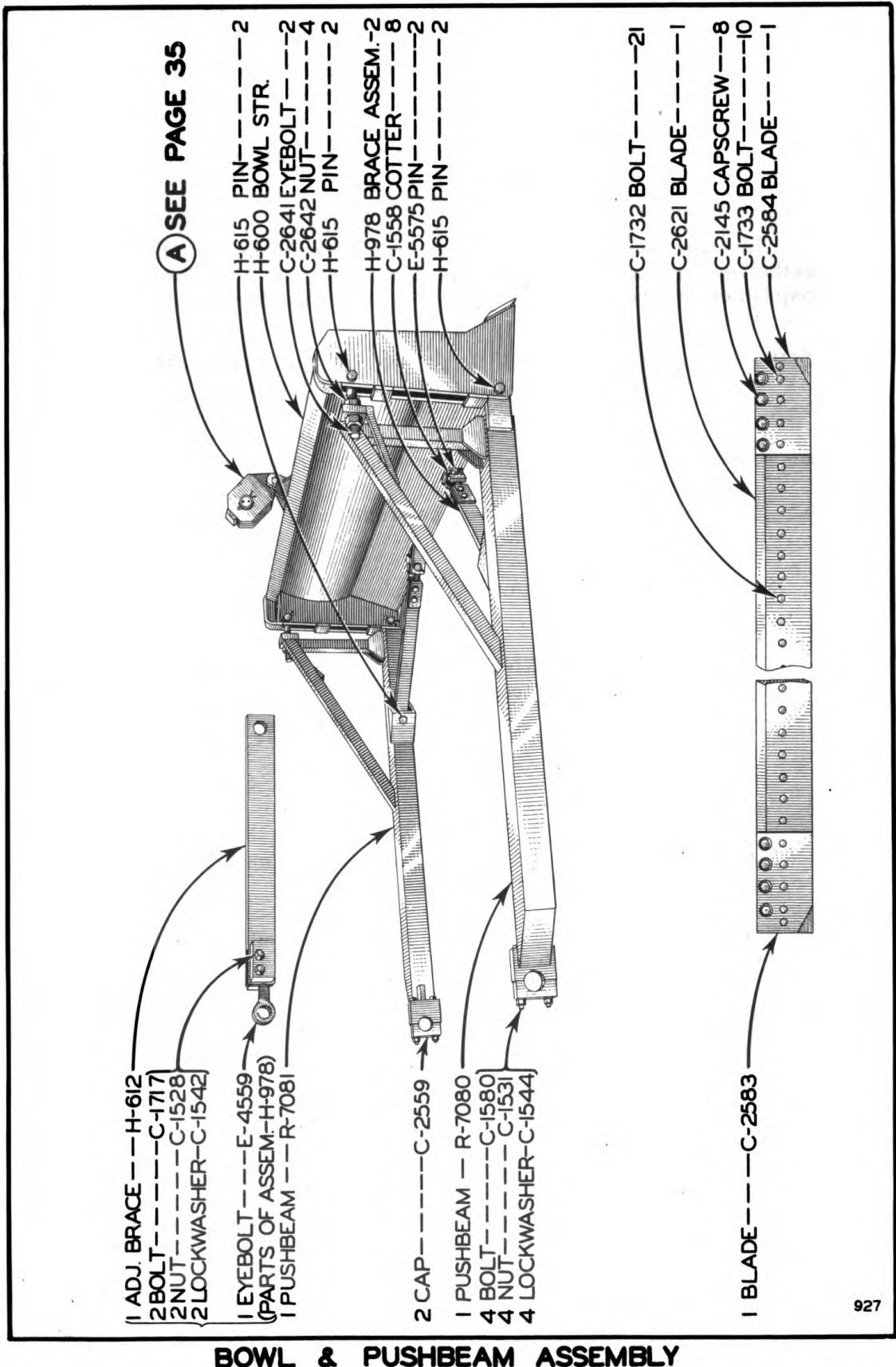
A Sample requisition in the correct form for submission by the Engineer Property Officer is shown on the opposite page.

THIS SHALL BE FOLLOWED IN MAKING OUT REQUISITIONS.

In order to eliminate duplication of work, Property Officers may authorize organizations to prepare requisitions in final form, leaving requisition number space blank for completion by Property Officer.

THE FOLLOWING RULES WILL BE OBSERVED CAREFULLY IN PREPARING REQUISITIONS FOR SPARE PARTS:

- a. Prepare a separate requisition for each different machine.
- b. Type "SPARE PARTS" in upper right hand corner of requisition form.
- c. State PERIOD designation by use of one of the following terms:
 - (1) "INITIAL"—first requisition of authorized allowances.
 - (2) "REPLENISHMENT"—subsequent requisitions to maintain authorized allowances.
 - (3) "SPECIAL"—requisitions for necessary repairs not covered by allowances.
- d. Give complete shipping instructions.
- e. State proper nomenclature of machine, and make, model, serial number and registration number.
- f. State basis or authority, and date delivery is required, immediately below description of machine.
- g. Group parts required under group headings as shown in manufacturers' parts catalogs.
- h. State manufacturers' parts numbers and nomenclature descriptions accurately and completely. Do not use abbreviations.
- i. Double space between items.
- j. Emergency requisitions sent by telephone, telegraph, or radio must always be confirmed immediately with requisition marked: "Confirming (state identifying data)".
- k. Nonexpendable items must be accounted for.



927

(A)

1 HOUSING-----D-2196

2 SHEAVE-----C-172

2 BEARING-----C-175

2 ZERK-----C-315

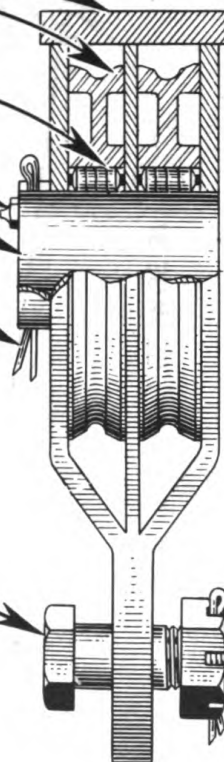
1 PIN-----D-2210

1 COTTER-----C-1051

1 BOLT-----D-2238

1 NUT-----D-3931

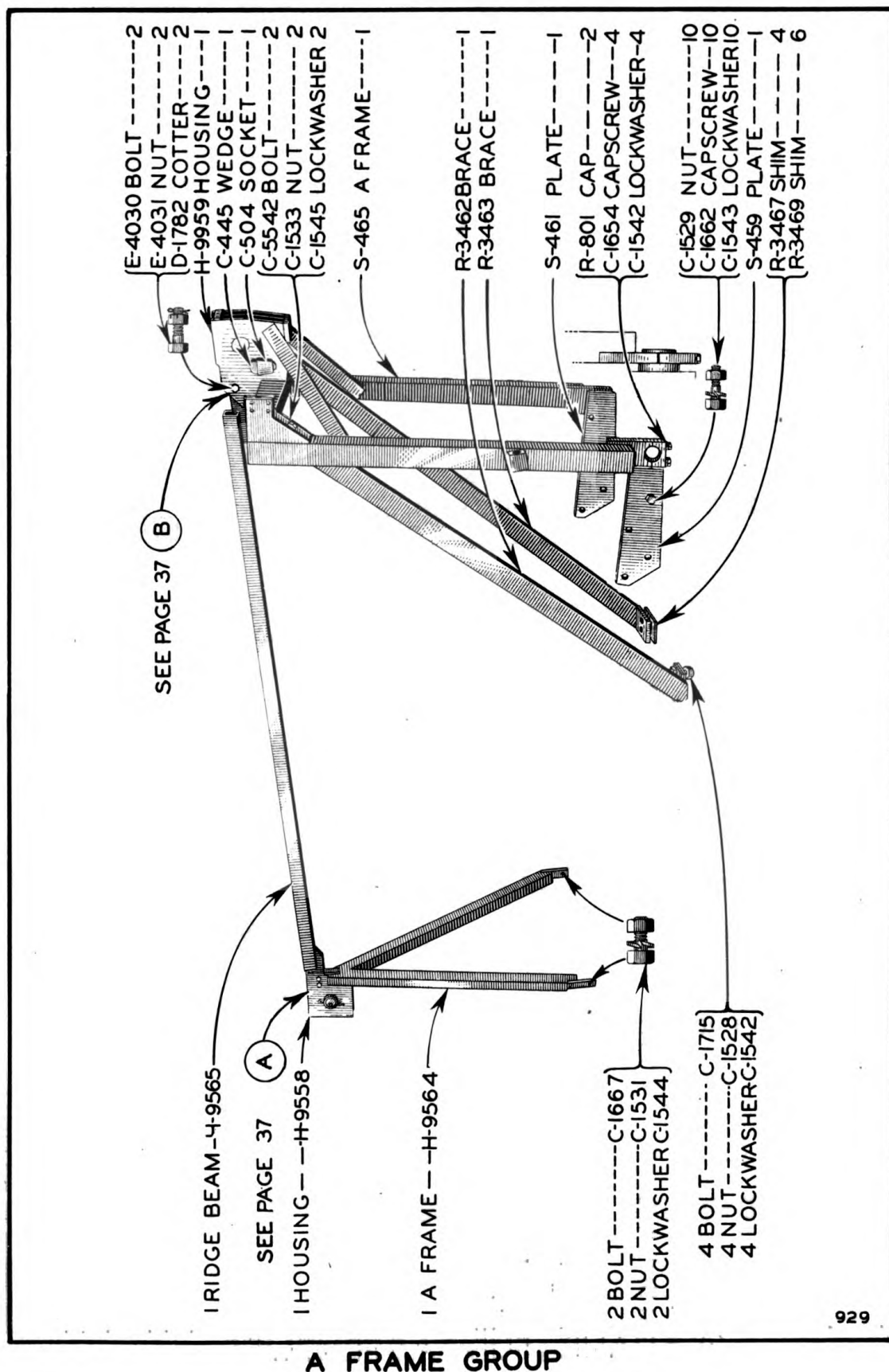
1 COTTER-----C-1949



D-2223 HOIST SHEAVE ASSEMBLY

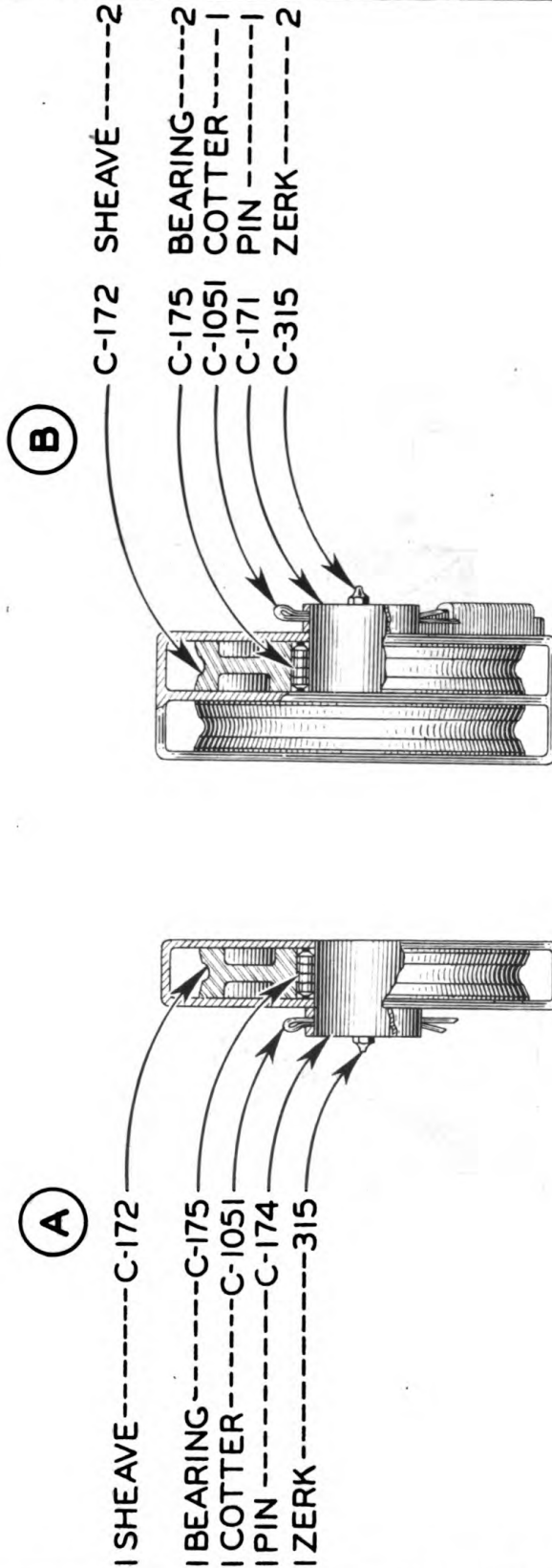
928

HOIST SHEAVE ASSEMBLY



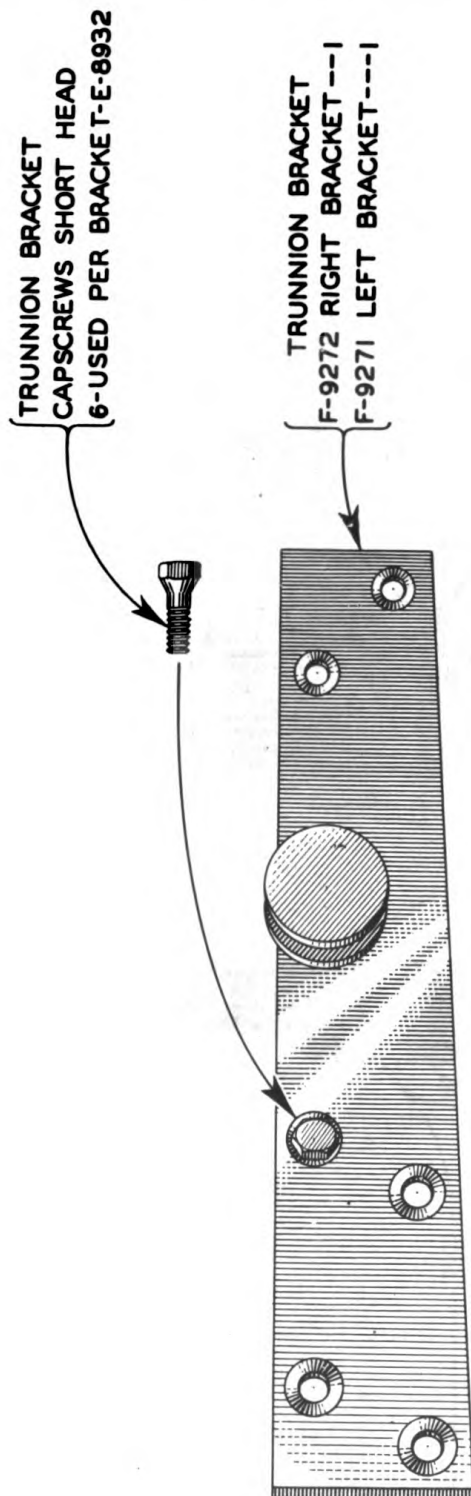
929

A FRAME GROUP



930

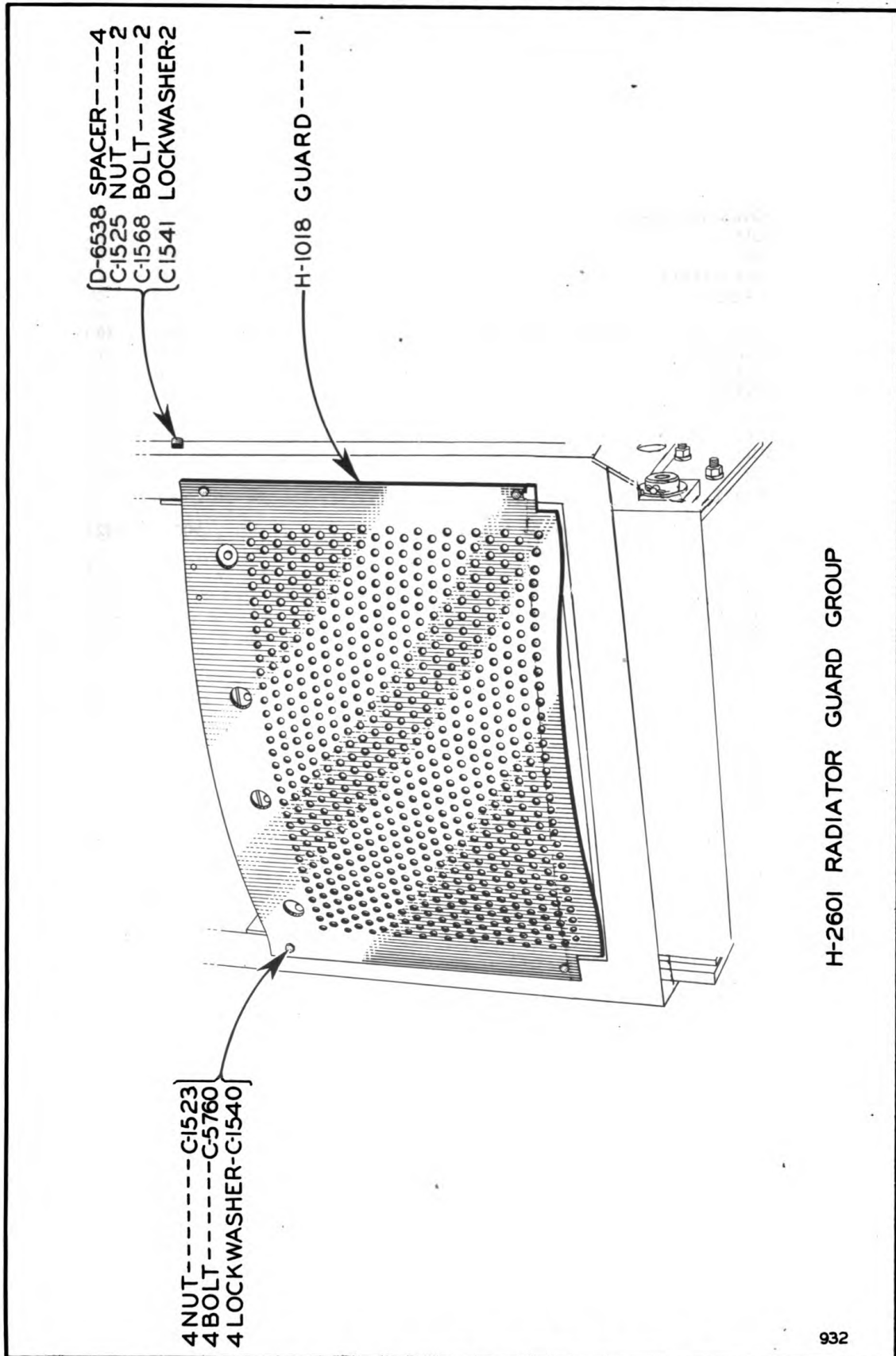
"A" FRAME SUB ASSEMBLIES



931

TRUNNION BRACKETS

TWO ASSEMBLIES REQUIRED



RADIATOR GUARD GROUP

LIST OF ASSEMBLIES

PART No.	DESCRIPTION	QTY.	WEIGHT LB.	PRICE EACH
H-978	BRACE ASSEMBLY (Includes Following).....	2	62	27.55
H-8612	ADJUSTING BRACE	1		
C-1718	BOLT	2		
C-1528	NUT	2		
C-1542	LOCKWASHER	2		
E-4559	EYE BOLT.....	1		
D-2223	HOIST SHEAVE ASSEMBLY (Includes Following):.....	1	100	40.73
D-2196	HOUSING	1		
C-172	SHEAVE	2		
C-175	BEARING	2		
C-315	ZERK	2		
D-2210	PIN	1		
D-2238	BOLT	1		
D-3931	NUT	1		
C-1949	COTTER	1		
S-1121	A-FRAME ASSEMBLY (Includes Following).....	1	900	252.00
S-465	FRONT A-FRAME STRUCTURE.....	1		
E-4030	BOLT	2		
E-4031	NUT	2		
D-1782	COTTER	2		
C-4445	WEDGE	1		
C-504	SOCKET	1		
C-5542	BOLT	2		
C-1533	NUT	2		
C-1545	LOCKWASHER	2		
R-3462	BRACE	1		
R-3463	BRACE	1		
S-461	PLATE	1		
S-459	PLATE	1		
R-801	CAP	2		
C-1654	CAPSCREW	4		
C-1542	LOCKWASHER	8		
C-1529	CAPSCREW	10		
C-1543	LOCKWASHER	10		
C-1662	CAPSCREW	10		
R-3467	SHIM	4		
R-3469	SHIM	6		
H-9565	RIDGE BEAM.....	1		
H-9564	A-FRAME (Rear)	1		
C-1667	BOLT	2		
C-1531	NUT	2		
C-1544	LOCKWASHER	2		
C-1715	BOLT	4		
C-1528	NUT	4		
C-172	SHEAVE	3		
C-175	BEARING	3		
C-1051	COTTER	2		
C-174	PIN	1		
C-171	PIN	1		
C-315	ZERK	3		

933

LIST OF ASSEMBLIES

MODEL XD7 BULLDOZER

(FOR USE WITH CATERPILLAR D7 TRACTOR SERIAL No. 7M-1 & UP,
AND LeTOURNEAU MODEL "R7" POWER CONTROL UNIT)

PART No.	DESCRIPTION	PAGE	QTY.	WEIGHT LB. OZ.	PRICE EACH
C-171	PIN	37	1	8 4	3.70
C-172	SHEAVE WHEEL	35, 37	5	12 ..	5.20
C-174	PIN	37	1	4 6	2.38
C-175	BEARING	35, 37	5	1 8	2.38
C-315	ZERK FITTING	35, 37	5	.. ..	.06
C-445	CABLE WEDGE	36	1	.. 8	.38
C-504	CABLE SOCKET	36	1	1 4	.68
C-1051	COTTER KEY, $\frac{3}{8}$ " x 5"	35, 37	3	.. 4	.06
C-1523	NUT, $\frac{1}{2}$ " NC HEX	39	4	.. ..	.03
C-1525	NUT, $\frac{5}{8}$ " NC HEX	39	2	.. ..	.04
C-1528	NUT, $\frac{3}{4}$ " NF HEX	34, 36	6	.. ..	.05
C-1529	NUT, $\frac{7}{8}$ " NC HEX	36	10	.. ..	.08
C-1531	NUT, 1" NC HEX	34, 36	6	.. ..	.11
C-1533	NUT, 1 $\frac{1}{4}$ " NC HEX	36	2	.. 14	.23
C-1540	LOCKWASHER, $\frac{1}{2}$ "	39	4	.. ..	.01
C-1541	LOCKWASHER, $\frac{5}{8}$ "	39	2	.. ..	.02
C-1542	LOCKWASHER, $\frac{3}{4}$ "	34, 36	6	.. ..	.03
C-1543	LOCKWASHER, $\frac{7}{8}$ "	36	10	.. ..	.05
C-1544	LOCKWASHER, 1"	34, 36	6	.. ..	.07
C-1545	LOCKWASHER, 1 $\frac{1}{4}$ "	36	2	.. ..	.13
C-1558	COTTER KEY, $\frac{3}{8}$ " x 3 $\frac{1}{2}$ "	34	8	.. ..	.05
C-1568	BOLT, $\frac{5}{8}$ " x 5 $\frac{1}{2}$ "	39	2	.. 12	.18
C-1580	BOLT, 1 x 10 $\frac{1}{2}$ "	34	4	2 14	.60
C-1654	CAPSCREW— $\frac{3}{4}$ " x 4 $\frac{1}{2}$ " NC	36	4	.. 10	.29
C-1662	CAPSCREW, $\frac{7}{8}$ " x 2 $\frac{3}{4}$ " NC	36	10	.. 10	.32
C-1667	CAPSCREW, 1" x 2 $\frac{1}{2}$ " NC	36	2	.. 12	.43
C-1715	BOLT	36	4	.. 8	.24
C-1717	BOLT	36	1	.. 8	.26
C-1732	BLADE BOLT	34	21	.. 4	.08
C-1733	TIP BOLT	34	10	.. 4	.08
C-1949	COTTER KEY, $\frac{1}{4}$ " x 3"	35	1	.. ..	.01
C-2145	CAPSCREW	34	8	.. 8	.36
C-2559	CAP, TRUNNION	34	2	8 ..	2.95
C-2583	BLADE TIP—RIGHT	34	1	44 ..	8.35
C-2584	BLADE TIP—LEFT	34	1	44 ..	8.35
C-2621	BLADE, $\frac{3}{4}$ " x 10" x 84"	34	1	144 ..	21.10
C-2641	BOLT, TOP EYE	34	2	13 10	6.58
C-2642	NUT, EYE BOLT	34	4	2 12	1.57
C-5542	BOLT	36	2	1 8	.59
C-5760	BOLT	39	4	.. 4	.21
C-6695	LOCK PIN	36	2	.. ..	.25
D-1782	Cotter Key, 3/16" x 2"	36	4	.. ..	.01
D-2196	SHEAVE HOUSING	35	1	61 ..	19.78
D-2210	PIN	35	1	9 ..	3.98
D-2223	HOIST SHEAVE ASSEMBLY	35	1	100 ..	40.73
D-2238	BOLT, 1 $\frac{1}{2}$ " x 3 $\frac{3}{8}$ " NF	35	1	2 8	1.01
D-3931	NUT	35	1	.. 8	.61
D-6538	SPACER	39	4	.. ..	.10
E-4030	BOLT	36	4	1 ..	.43
E-4031	NUT	36	4	.. 6	.28
E-4559	BOLT, EYE	34	1	11 ..	6.53
E-5575	PIN, EYE BOLT	34	2	5 12	2.89
E-8932	CAPSCREW, SHORT HEAD	38	6	.. 12	.37

SPARE PARTS & PRICE LIST

(FOR USE WITH CATERPILLAR D7 TRACTOR, SERIAL No. 7M-1 & UP,
AND LeTOURNEAU MODEL "R7" POWER CONTROL UNIT)

PART No.	DESCRIPTION	PAGE	QTY.	WEIGHT LB. OZ.		PRICE EACH
F-9271	BRACKET, LEFT	38	1	80	..	22.75
F-9272	BRACKET, RIGHT	38	1	80	..	22.75
H-600	BOWL STRUCTURE	34	..	1400	..	385.00
H-612	BRACE, ADJUSTING	34	1	51	..	21.03
H-615	PIN	34	6	5	..	2.63
H-978	BRACE ASSEMBLY	34	2	62	..	27.55
H-1018	RADIATOR GUARD	39	1	150	..	47.75
H-9558	HOUSING FOR R7 PCU	36	1	22	..	6.80
H-9564	REAR A-FRAME STRUCTURE FOR R7 PCU	36	1	120	..	48.00
H-9565	RIDGE BEAM FOR R7 PCU	36	1	110	..	39.00
H-9959	HOUSING	36	1	51	..	17.25
R-801	BLOCK, CLAMP	36	2	4	10	2.90
R-3462	LEFT BRACE	36	1	65	..	16.63
R-3463	RIGHT BRACE	36	1	65	..	16.63
R-3467	SHIM	36	2	..	..	.08
R-3469	SHIM	36	4	..	8	.16
R-7080	ARM, SIDE—RIGHT	34	1	480	..	432.00
R-7081	ARM, SIDE—LEFT	34	1	480	..	432.00
S-459	FOOTPLATE—RIGHT	36	1	35	..	9.38
S-461	FOOTPLATE—LEFT	36	1	35	..	9.38
S-465	A-FRAME STRUCTURE—FRONT	36	1	372	..	105.80

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SPARE PARTS & PRICE LIST

